

THE AMERICAN School Board Journal

A PERIODICAL OF SCHOOL ADMINISTRATION



AMERICAN YOUTH, by DANIEL CHESTER FRENCH

NOVEMBER, 1930

In This Issue—Radio Education—Emerson D. Jarvis

THE BRUCE PUBLISHING COMPANY
New York MILWAUKEE Chicago



Here is proof that

are the most efficient closet combinations that you can install

VOGEL Closet Combination, taken at random from stock, was put on an Endurance Test under actual operating conditions. This was July 16, 1929.

Now, going into the second year of this Endurance Test, this closet has operated faithfully more than 200,000 times and

Literature illustrating and describing **VOGEL** Number Ten and Ten-A Closets will be sent promptly. **VOGEL** Products have been sold and installed by plumbers for more than twenty-three years.

INSTALL either of these **VOGEL** outfits
They will give you the kind of service you expect from the closets you put in your school—and freedom from repairs year in and year out.

Instead of the hardwood seat shown Vogel Closets can be supplied with seats of hard rubber composition.

Wilmington, Delaware

St. Louis, Missouri

VOGEL *Products*
PATENTED

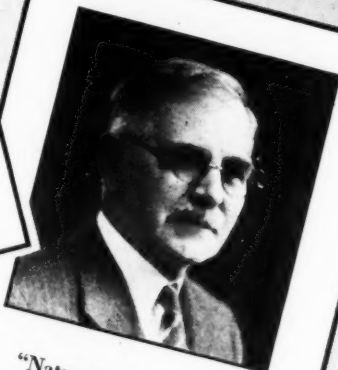


NATURAL SLATE BLACKBOARDS,— Always first choice!



"I have never found a satisfactory substitute for Natural Slate Blackboards."

DAVID A. WARD
Supt. of Public Schools
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"Natural Slate Blackboards and none other have been used in our schools since 1870."

GEORGE O. STUMP
Superintendent of Buildings
Sch. Dist., City of Allentown
ALLENTOWN, PENN.



"Natural Slate Blackboards are incomparable in every way."

LOUISE B. HAMILTON
School Teacher
ATLANTA, GEORGIA



"Natural Slate Blackboards installed 42 years ago are still in use—"

CHARLES A. SMITH
Architect of School District
KANSAS CITY, MO.

More Testimonials!! More Endorsements!! Absolute Proof that Natural Slate Blackboards are the first choice of School Authorities everywhere—whether they are Architects, Superintendents, Building Inspectors, Teachers.

After you have experienced the permanent service "Pyramid Brand" Natural Slate Blackboards afford . . . After you have had proven that "the first cost is the only cost"—you, too, will join the host of Natural Slate Blackboard endorsers.

"Pyramid Brand" Natural Slate Blackboards are Sanitary, Dustless, Fireproof, Easy to Clean, Easy to Write On and to Read From. There is no warping or cracking . . . no surface to wear off. They will outlast any building. Two booklets describing Natural Slate Blackboards containing data, specifications and an interesting story on their quarrying and finishing, are yours for the asking.



Natural Slate Blackboard Company

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PEN ARGYL, PA.

BRANCH OFFICES IN PRINCIPAL CITIES

Natural Slate Blackboards



BEHIND 100% JANITORIAL EFFICIENCY
are carefully thought out MAINTENANCE PLANS

THE MIDLAND SYSTEM OF SCHOOL HOUSEKEEPING

is the result of continuous study and experiment using school buildings in every section of the country as laboratories. We offer a surprisingly effective method of school-building upkeep.

Every activity of the custodian during his working day is covered and he is directed and advised as to preservation of property as well as the cleaning of it. Modern school authorities have long ago discovered that merely presenting a man with broom and dustpan does not make him a reliable caretaker of the many thousands of dollars worth of school property. School custodianship is an important link in the chain of modern education.

All the books are yours for the asking. Make a request on your school stationery and we will gladly supply you with the 12 textbooks of the Midland School Housekeeping System. No cost or obligation.

MIDLAND CHEMICAL LABORATORIES, INC.
DUBUQUE, IOWA, U. S. A.

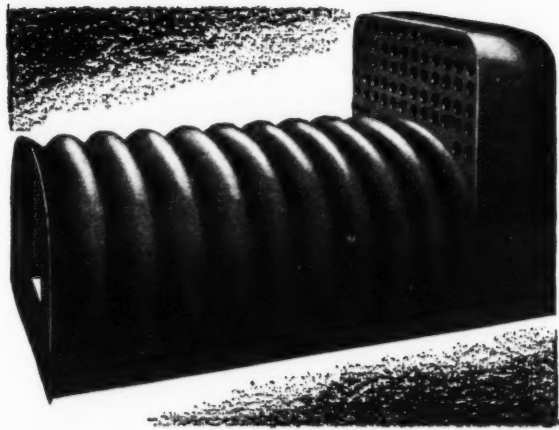
KEWANEE

Type "C" STEEL BOILER

Electric-Weld

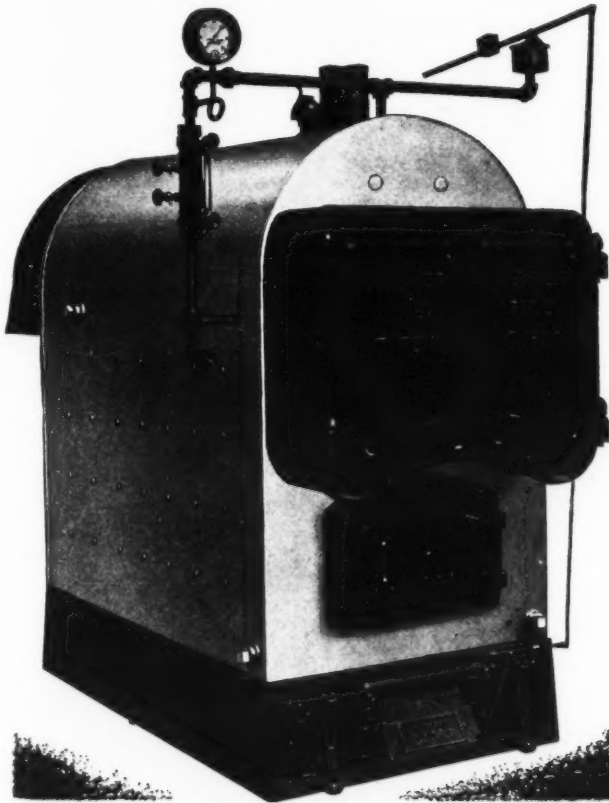
With sixty years experience building steel heating boilers Kewanee has developed the most complete line; to carry every size radiation load; in any kind of building operation.

The Kewanee Type "C" helps to round out that line. There is a clearly defined demand it fits to perfection.



For Coal (Hand or Stoker fired), Oil or Gas. A change from one fuel to another presents no complications.

The Crown Sheet is Corrugated and "Right-Side-Up"



The corrugated Crown Sheet provides a greater area of heating surface *directly in contact with the most intense heat in the firebox*. This insures more complete absorption of the heat by the water in the boiler, and very quick steaming.

The corrugations also add strength and take care of expansion and contraction due to variations of temperatures in the firebox.

Being "Right-Side-Up" there are no pockets in which soot, mud or sediment can collect—such residue naturally falling to the bottom where it is easily washed out. This design also adds height to the combustion chamber—an essential of complete fuel-saving fuel burning.

Tapped for Excelso Water Heater.
Catalog No. 84 has all the details.

KEWANEE BOILER CORPORATION

division of American Radiator and Standard Sanitary Corporation
KEWANEE, ILLINOIS Branches in Principal Cities
MEMBER OF STEEL HEATING BOILER INSTITUTE

New Ventilating revolutionizes school

*millions of dollars will be saved in fuel,
maintenance and lowered building costs*

OUT of many years of study, research, and practical experience in the field of school ventilation a new science has evolved which is the basis of a new ventilation art.

This art in many ways is contrary to past practice.

Most present and past practice has been based on the assumption that harmful and injurious effects resulted from the inhalation of respiration air. Therefore the object of most ventilation systems was to continuously flood the room with outdoor air in order to dissipate the so-called "crowd poison."

Scientists of today however, as a result of observation and practical experimentation, assert that the theory of outdoor air being the vital requirement of ventilation is unsound. They maintain that the indoor

conditions essential to health, comfort and alertness are: 1. Atmospheric activity. 2. Relative humidity. 3. Control of room temperature.

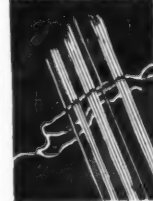
The acceptance of these facts provides a basis for the new Herman Nelson System of Ventilation. This system provides to a nicety the requirements that science now prescribes. With this system instead of introducing a fixed amount of outdoor air into a room, out-of-door air is admitted only when required to control temperature and dissipate odors.

With the Herman Nelson System, proper indoor atmospheric conditions may be maintained automatically through proper air motion, humidity limitations, and temperature control. Such outdoor air as may be required for the removal of excess body heat and odors is tempered to just the right

AIR MOTION



HUMIDITY



The HERMAN NELSON

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TORONTO
WINNIPEG, MAN.
CALGARY
LONDON
OSLO
MELBOURNE
TOKIO, OSAKA

System— ventilation practice!

degree through inner-mixture with room air—but is not preheated.

It is estimated that the Herman Nelson System of Ventilation will save approximately half the fuel bill, for it is no longer necessary to heat the large volume of cold outside air, that in the past was admitted into the schoolroom during the winter months.

Further economies result in building construction, through the use of smaller boilers, reduced pipe size, and through the elimination of vent flues.



The Her-Nel-Co Ventilator is the principal equipment used in the Herman Nelson System of Ventilation. This machine together with the required amount of direct radiation will amply serve the schoolroom.

The cabinet is finished in beautiful morocco enamel with bronzed fittings. The cabinet contains the Herman Nelson Wedge Core radiator for heating the room air which circulates through it—a fan motor for quietly forcing air circulation, a filter for cleansing air of dust and dirt, a steam jet humidifier and dampers either automatically or hand controlled for regulating

the admission and intermixture of indoor and outdoor air.

While the Herman Nelson System of Ventilation is a new and radical departure from all previous schoolroom ventilation practices, it is based on fundamental scientific facts long recognized by leading hygienists and engineers. It is welcomed as the most practical solution of the school ventilating problem, for it is the most positive application of the laws which modern research has discovered.

Univent System of Ventilation

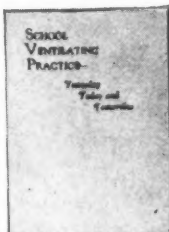
The Herman Nelson System of Ventilation is the logical development of the Univent System which has won universal recognition for its outstanding results. The Univent System meets in the simplest, most practical way, those conditions where a continuous supply of outdoor air is desired or specified by state code.

In a like manner The Herman Nelson System of Ventilation fulfills modern ventilation standards with added savings in heating installation and operation costs.

For further information, check coupon and send to The Herman Nelson Corporation, Moline, Illinois

CORPORATION MOLINE ILLINOIS

Makers of the *Herman Nelson System of Ventilation*,
the *Univent System of Ventilation*, the *Herman Nelson Invisible Radiator*, the *Herman Nelson HiJet Heater*,
and other heating and ventilating equipment.



THE HERMAN NELSON CORPORATION,
Moline, Illinois
Please send me, without obligation, the book "School Ventilation Practice—Yesterday, Today and Tomorrow".

Name.....

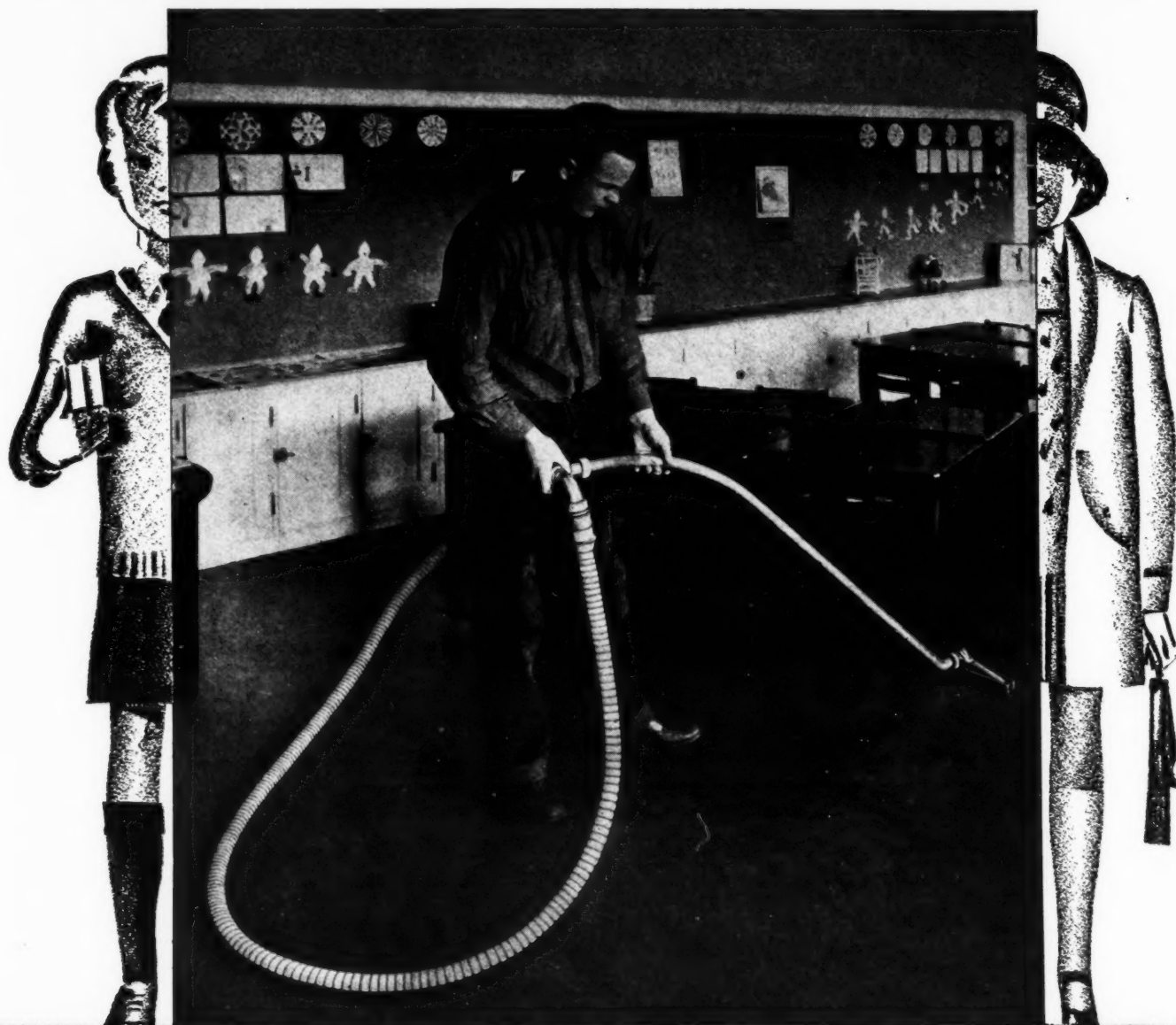
Address.....

City.....

Position (Architect, School Superintendent, etc.)

State.....

5-1



On Guard

Cleanliness improves the health, the morale and the intellectual standards of any school.

But there are degrees of cleanliness. Some methods stir up the dust—others fail to collect it—and still other methods are too slow and expensive.

The Spencer Central Cleaning System is fast, effective and efficient. The powerful vacuum sucks in all the dirt and dust quickly and quietly and is often used while school is in session.

Your janitor will keep your school permanently clean if he has the proper equipment. A visit to any Spencer Equipped School will convince you—or we will gladly send you reports of educational authorities on this subject.

Our bulletin on school cleaning is free for the asking.

THE SPENCER TURBINE COMPANY
HARTFORD, CONN.

SPENCER CENTRAL CLEANING SYSTEM

Nearly Every Day Some New "Service" Feature Is Added To Johnson Control



WILLIAM S. HACKETT JUNIOR HIGH SCHOOL,
Albany, N. Y.
MARCUS T. REYNOLDS, *Architect*,
Albany, N. Y.
KENNETH G. REYNOLDS, *Associate*

The heating and ventilating system in this building is a split system, with central fan for ventilating and direct radiation for heating. There are two fans supplying the ventilation: one for the auditorium and gymnasium, one for the classrooms.

Johnson Wall Thermostats control the direct radiators in the classrooms. The ventilated air is temperature controlled by Johnson four point thermostats. Johnson cut-off dampers are installed for the fresh air intake damper and roof vent damper. The installation also includes two Johnson Electric Air Compressors.

Forty-five years ago The Johnson System of Heat & Humidity Control was placed on the market.

It was the first successful method of complete temperature regulation.

Every notable advance in heat and humidity control apparatus since has had its origin with this company.

Although satisfactorily serving its users, this company is never fully satisfied with the product.

Search for the better is constantly conducted.

Nearly every day new service features are added; minor some of the times but yet advisable.

Every Johnson installation is inspected annually, without charge.

And with 30 branches located geographically convenient to every city in United States and Canada, Johnson emergency attention is given within twenty-four hours anywhere.

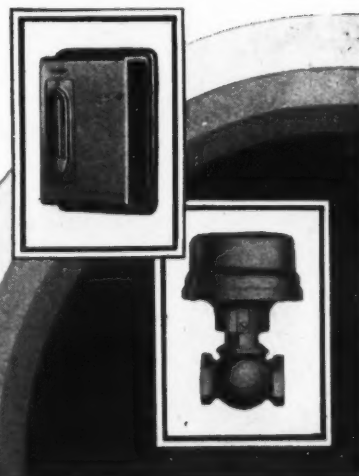
That is the reliability behind Johnson Heat & Humidity Control.

JOHNSON SERVICE COMPANY

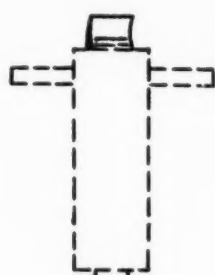
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Established 1885
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Dampers

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(Night & Day) Control:
Fuel Saving 25 to 40%



JOHNSON HEAT AND HUMIDITY CONTROL



Von Duprin

Self-Releasing Fire and Panic Exit Latches

Spending Money To Save It

When you put Von Duprin latches on a school building, you spend a few dollars to save many.

Costing somewhat more in the beginning, the new series Von Duprins are so carefully made, so strong and so dependable that maintenance costs are negligible, even after many

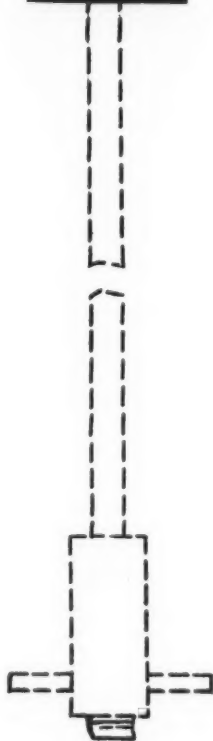


years of hard service. The higher first cost provides a definite saving in the end cost.

For your protection, we urge that you ask your architect to specify Von Duprins separately from the finishing hardware—and by name. Thus you foster clean competition, since all reputable dealers can buy these devices at the same fair prices.

VONNEGUT HARDWARE CO.
Indianapolis, Ind.

Listed as Standard by Underwriters Laboratories



ONLY TIME CAN PROVE VALUE IN WINDOW SHADES

Time has done its proving of Columbia shades

Perhaps you are choosing window shades now, from samples spread across your desk. You can compare their looks...their costs. You can't compare their values.

What will they look like six months...years from now? Will they hang straight...free from sagging? How badly will they need cleaning, and will it be costly? How smoothly and how quietly will their rollers be working? What kind of service will they be giving at *your windows?*

True value in window shades is cost divided by length of good service. And only *time*

can work that out. But it needn't be *your* time...*you* need do no experimenting...if you specify *Columbia* shades.

Columbia is the largest maker of window shades. For many years *Columbia* shades have been *serving well* at many kinds of windows. Over and over again...*time has done its proving of Columbia shades.*

You can benefit by that. Call in the *Columbia* man. Let him help you find the *Columbia* shade for your needs. Let him tell you why it is your kind. Buy *value* in window shades, where value is already proved.

Columbia

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ROLLERS • VENETIAN BLINDS

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They're in Your Care from 8 till 4....



Are they safe from traffic dangers?

With traffic conditions becoming more hazardous, school board officials cannot afford to ignore the increased responsibility for children's safety.

The modern idea of maximum safety is to enclose playgrounds with Cyclone Fence. Throughout America, this dependable fence is keeping thousands of children within bounds, out of dangerous streets, and saving many lives.

Cyclone Fence is made of durable copper-steel. Fabric galvanized by the "Galv-after" process developed by Cyclone. All parts heavily galvanized. Cyclone Fence lasts for many years without upkeep expense. Erected on H-column posts for greater strength and durability.

Our own trained erection crews install Cyclone Fence everywhere. Prompt service no matter where your school is located. We also make woven wire window guards, sectional partitions, tennis court backstops and enclosures. A Cyclone representative will be glad to call and help you with your fence problems.

Write for information.



All chain link fence is not Cyclone. This nameplate identifies the genuine Cyclone Fence.

Cyclone Fence

REG. U.S. PAT. OFF.

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CYCLONE FENCE COMPANY

Subsidiary of United States Steel Corporation

General Offices: Waukegan, Ill.



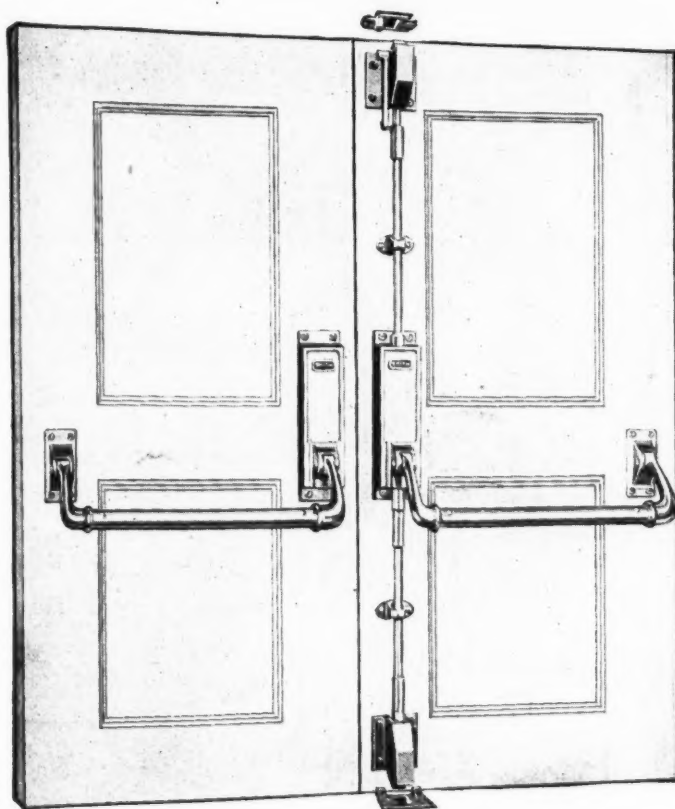
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SMITH'S IMPROVED PANIC EXIT LOCKS

NO. 80 LINE

Gravity Panic Exit Bolts



*Inside View
Has Outside Trim.*

*Inside View
No Outside Trim.*

Bolts are operated by a slight pressure on the Cross Bar.

Bolts are not dependent on springs for opening or closing operation.

Simple but sturdy in construction and easily installed.

Will operate perfectly in connection with standard makes of door closers.

Catalogue No. 30 with Supplement "A" sent on request.

Manufactured by

THE STEFFENS-AMBERG CO.

260-270 Morris Ave.

NEWARK, N. J.



I'm
Failure

I'm
Short Life

I'm
Insanitation

If you have had even a little to do with plumbing installations, especially in public and semi-public buildings, you know these ignoble three.

Their method of attack is simple. They wait until they can take advantage of human carelessness, human failings or defects and faults in the installation.

The Clow Soldier of Sanitation is your most logical ally in your constant battle against these three.

It is his job to design and construct for public and semi-public buildings as well as dwellings, plumbing fixtures that will com-

pensate for carelessness, human failings and human uncleanness.

To gain his end the Clow Soldier of Sanitation has developed the most complete line of specialized fixtures in the world, with particular types and designs to meet every conceivable condition in schools, hospitals, industrial plants and similar public buildings.

He has developed manufacturing safeguards to an unheard-of degree, actually putting each fixture through tests, based upon what it will meet on the job, before shipment.

And at his fingertips are 52 years of experience in working out the most acute and most difficult plumbing problems.

He is your ally against plumbing *Failure* and its resulting repair costs—against *Short Life* and the resulting high replacement costs—against *Insanitation* and its hideous dangers. Call him in.

CLOW

CHICAGO

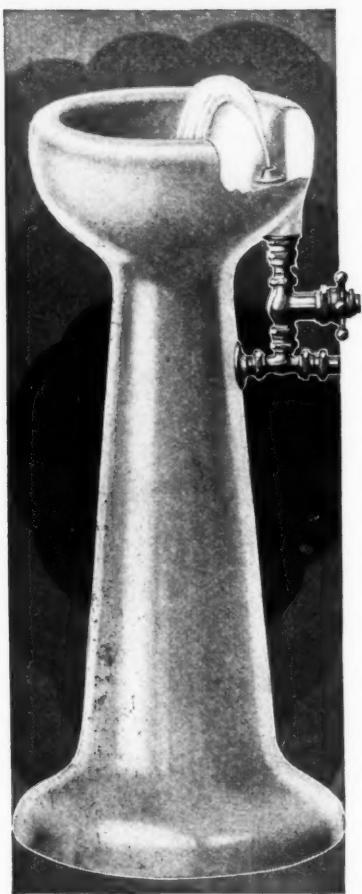
PREFERRED FOR EXACTING PLUMBING SINCE 1878

Consult your architect



Ask for a Copy

Clow has specialized catalogs detailing special fixtures for schools, hospitals, industrial plants and similar public and semi-public buildings. Because these lines are so unusually complete you will be interested in the book. Ask for a copy today.



FOUNTAINS OF BEAUTY!

R-S Drinking Fountains are in keeping with the lines of present day architecture . . . pleasing, clean in design . . . they add much to public buildings, hotels, schools and other institutions.

There are many types and styles of R-S Fountains now available in color . . . but all have the R-S Vertico Slant feature. Let us give you full particulars. Write for catalog.

RUNDLE-SPENCE MFG. CO.

51 Fourth Street
MILWAUKEE, WIS.



Utility Comes First

THE primary purpose of school building toilet room equipment is sanitation, protection of the health of the hundreds of children who make daily use of the facilities. WEISTEEL compartments have been designed to fulfill this primary purpose. Pleasing lines, to harmonize with and be worthy of the finest architecture, have been given these partitions without sacrificing the easy cleanability, the plain surfaces which make for sanitation.

The material--copper bearing sheet steel--cannot absorb odors, cannot crack, and is highly resistant to corrosion. With reasonable care, it is practically everlasting. Crevices for the lodgment of dirt and germs have been eliminated; even the hardware--hinges, latches, coat hooks, etc.--has been made to withstand the punishment which hardware usually receives in in public and semi-public toilet rooms.

These utility factors make WEISTEEL the most economical compartment you can specify. We know you'll be pleased with their appearance. A request from you will bring complete information about the features which make WEISTEEL the logical choice for school equipment. . . . HENRY WEIS MFG. COMPANY, INC., Elkhart, Indiana.

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SHOWER STALLS-COMPARTMENTS-CUBICLES

Making Buildings Rainproof

HOW MANY ARE?

How many are not! Enough of the latter to direct your closest attention to the increasing problem of wall leakage. Par-Lock applicers have the answer with

Dens-tect, a protective wall treatment in which asphalt is mixed at the nozzle with fine aggregate, building out to tangible thickness, filling every void and affording a continuous coating.

Par-Lock Plaster Key, proved by 15 years of successful use on surfaces plastered direct.

Spandrel Waterproofings to fit the requirements of the installation.

Gun applied asphalt coatings for every construction use.

The local Par-Lock Applicers can tell you of jobs close at hand rendered rainproof by their application. With a local, responsible contracting organization they bring you uniform, proved materials, uniform methods and unified, national Par-Lock policies. Rely on



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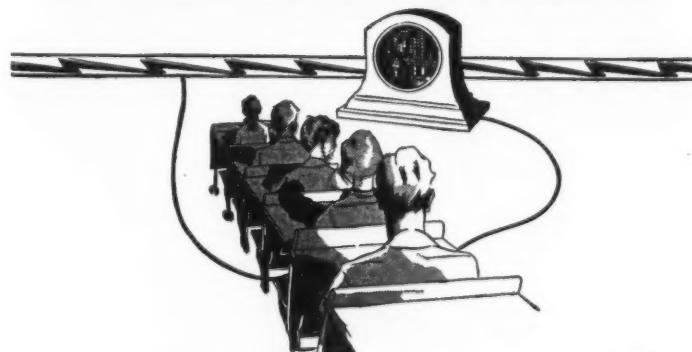
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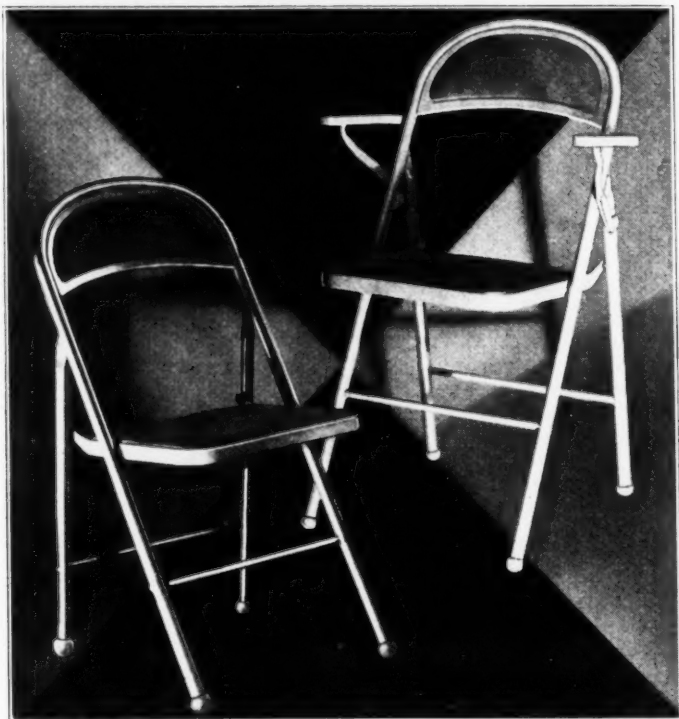
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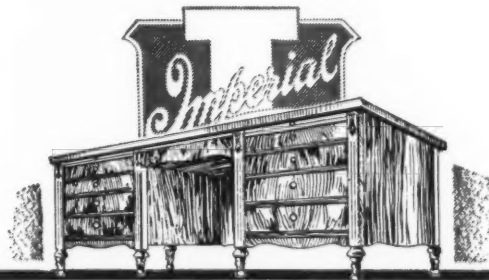
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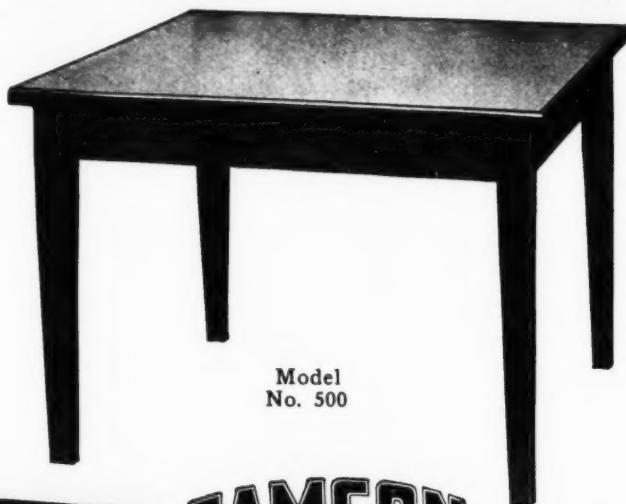
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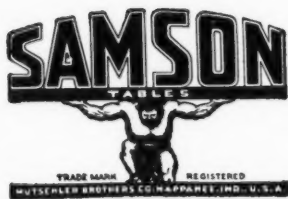
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329 Oak



Model
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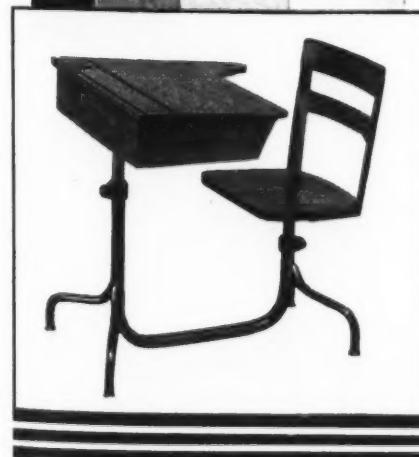
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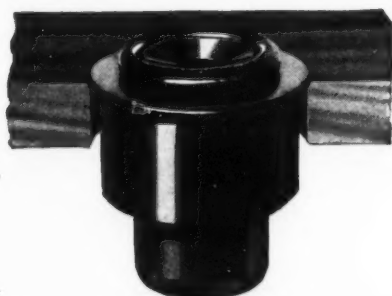
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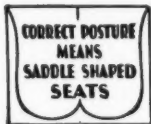
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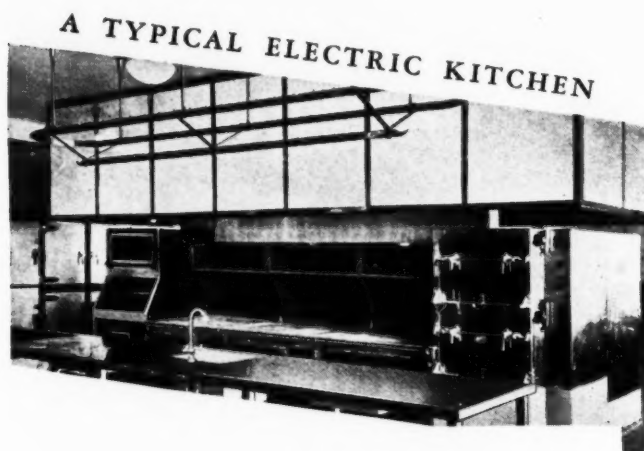
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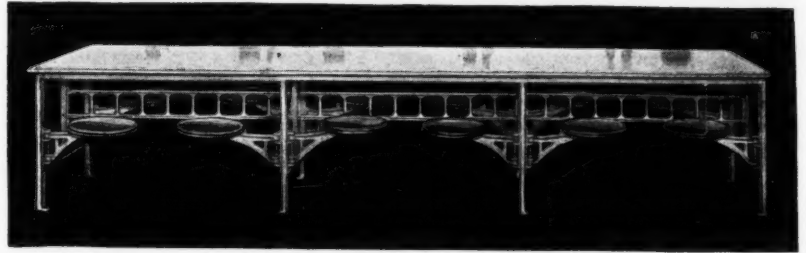
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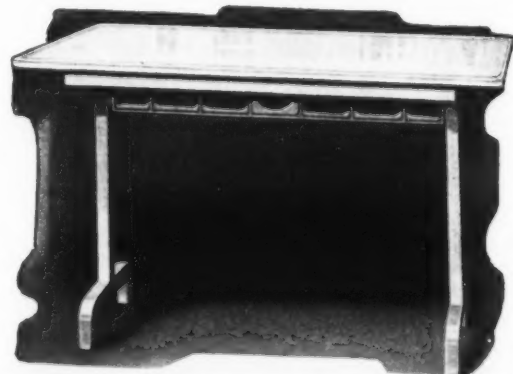
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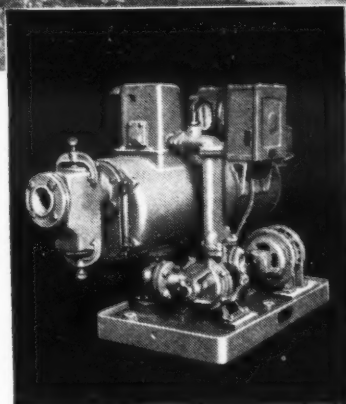
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Economic Slumps and the Schools

The question is frequently asked in these days: How does an industrial depression affect administration of the schools? Does it lessen the school activities? Does it put a check upon expansion? Does it postpone new schoolhouse projects? Does it lessen the purchase of textbooks, supplies, and general schoolhouse paraphernalia?

The answer is that, in the main, the administration of the schools is in nowise affected. While on the one hand, there is a tendency for retrenchment, there is on the other, a disposition to keep a-going at top speed and to engage in such activities as will stimulate employment of labor.

Thus, new building projects which were being considered in a somewhat leisurely way are being speeded up, and needed repairs which had been overlooked are being made.

The logic of the situation is that the schools must go on, whether times are good or bad. Nor can the expenditures be lessened, if high standards of efficiency are to be maintained. And the fixed policy of the American school administrator is to hold the schools upon the highest plane in point of momentum and service.

It is true that the school executive is cautious to see that the dollar he expends will bring a maximum of return. But, true economy is in order all the year around, and for that matter every year. It cannot be said that the schools are extravagantly managed, hence radical retrenchment cannot be effected, without impairing the efficiency of the schools.

Thus the schools must go on!

The Editor.

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The contents of this issue are listed in the Education Index.

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NOVEMBER, 1930

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THE TRIUMPH OF OLD-FASHIONED REASONING!

Clearfield's School Adventures—III

Mark Wright, Member of the School Board, Clearfield

A Scheme for Supervision

One day some two weeks ago, I found myself with an unexpected holiday on my hands, due to the fact that our place of business was closed for emergency repairs. Since a man with nothing to do craves company, I telephoned our superintendent of schools right after breakfast, and asked him to come with me that afternoon on a short fishing trip. He agreed readily enough and asked what I proposed to do with my morning. When I told him I had no plans, he suggested that I visit some of the schools for an hour or two.

Since my own boy is a member of the fifth grade in the S—— school, I decided to follow the suggestion of my wife and begin with a visit to his room. Determined to enjoy my holiday to the utmost, I made a leisurely departure for the school, with the result that I interrupted a lesson in history when I knocked on the door of grade five. Miss V——, the teacher, received me cordially and led me to a convenient chair. Then she called for a lesson in music. As soon as the children were well started with a song, Miss V—— tiptoed to my chair and said "Since you are a member of the school board, Mr. Wright, I knew you would be especially interested in a music lesson." Although I failed to understand the meaning of her statement, I nodded and assumed the attitude of a most interested listener. After the class had sung several songs for my benefit, I thanked Miss V—— for her hospitality and went downstairs to visit the first grade where my daughter dropped her reading lesson to smile at me proudly. (May I never fail her.) Miss C—— stopped her teaching work at once to ask if I wouldn't like to hear a music lesson. Again to accommodate the teacher, I assented. But as soon as I could do so, I went home wondering why so much music had been spread for me at the school.

That afternoon, as Superintendent Graham and I rowed leisurely across the lake to the flats where fish were expected to be awaiting our coming, I told him of my school experiences of the morning. I told him that, to the best of my knowledge, I had never before shown any more special or particular interest in music than in any of the other parts of the school program of studies. At his amused chuckle, I let my oars fall and asked him to share the secret with me.

"You forget," he said, "that the board employed a music supervisor a year ago. Undoubtedly both Miss V—— and Miss C—— are proud of the achievements of their classes in music. But, very probably too, they assumed that you visited their rooms especially to observe the work in music because, as a member of the board, you doubtless shared in the vote to employ a special music supervisor."

"But, why should they think that music is my chief, or only, school interest at present," I asked.

"Let me tell you my experience," replied Superintendent Graham. "When I made my first round of classroom supervisory visits after coming to Clearfield, more than half of the teachers seemed to be most anxious to have me see work in music, or art, or physical education. Several teachers registered genuine surprise whenever I tried to ask about classwork in reading, history, language, or arithmetic. Finally, I asked one of our school principals for the explanation. 'Very simple,' she said. 'The teachers assume that your big interest at first are centered in those fields for which special supervisors have been hired by the school board. Presumably, these subjects need special attention on the part of all of us, since special help

in the form of a special-subject supervisor has been deemed necessary by those in charge of our schools.'

"And so, I went home that evening deep in thought. To the chatter of my son at the table, I replied so unsatisfactorily that he began to talk only to his mother. My wife had to tell me twice that the repair bill of the plumber had come before she could awaken me to an alarmed interest in family affairs.

Then I remembered that the question of finding a successor to Miss Y——, our present music supervisor who is to be married soon, had been raised at the board meeting last month. And that Miss J——, our art supervisor, asked recently for a half-year's leave of absence for further study. Suddenly the thought dawned on my consciousness that the Clearfield school system faced a possible fork in the road. Supervision of instruction, and more especially as this supervision applied to the work of the elementary grades, presented just now a real issue. As a result I stayed in the office all the next day planning a report for the next meeting of the board."

Well, we didn't catch any fish. But somehow I did catch an idea as Superintendent Graham continued to discuss our school-supervision situation—which goes to prove again that many an unsuccessful fishing trip may be highly successful from the standpoint of getting two men together. At least it offers, in a hustling and busy world, a chance for undisturbed thinking on some real problem.

Superintendent Graham's report as presented at our last monthly board meeting follows:

"The fact that two of Clearfield's special-subject supervisors are withdrawing from the school system, one to be married, and one to study further, naturally raises prominently the question of the future policy of supervision of the elementary grades. Clearfield schools face a fork in the road. Is the policy of employing additional special-subject supervisors from time to time preferable to the policy of employing one general elementary supervisor who will supervise all the work of these grades?

"In the various grades of the high school, teachers who are experts in their respective fields are desirable. In the kindergarten and the

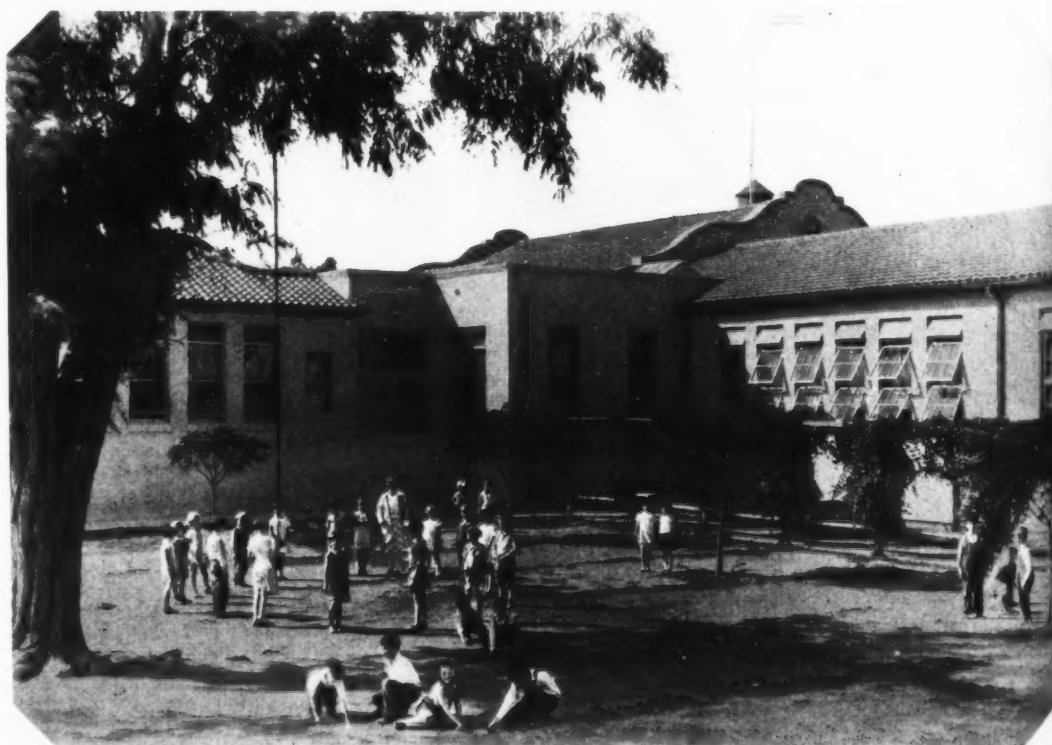
first six grades, however, subject-matter skill is not the only, or the main essential. Special-subject supervisors are too frequently persons who have made a specialty of the subject matter in one field, rather than a specialty of children. Instead of welding the whole curriculum together, they tend rather to emphasize often unduly the special field of their own interest.

"The regular classroom teachers also tend unconsciously to place undue emphasis on the subjects for which the board furnishes special supervisors or itinerant teachers. Every elementary teacher ought to do all the work with her class. This makes for less division of interest and attitudes on the part of the children, and for better understanding of meanings. The basis of the modern curriculum is a unit within which one uses reading, history, music, etc. Subject-matter lines in language, spelling, reading, arithmetic, and other subjects break down with the curriculum built upon centers of interest. Occasionally pupils who have used the library often during the day in searching for information have reported at home that they had had no reading at school that day. At least one teacher worried because her class had had no language, no geography, and no fine arts even though the pupils had that day discussed a trip, traced it on the floor, and made sketches for pictures to illustrate the major details. The old terms are fixed. Many of us still must have reading labeled 'reading.'

"One important phase of supervision of instruction in the elementary grades is that of making certain that no significant phase of subject matter is omitted from the educational path of the child. There should be no unwise overlappings, and no omissions, to cause one-sidedness in the individual. The general supervisor can remedy any such defects.

"The policy of employing a general supervisor of the elementary grades is recommended, therefore, to replace the time-worn traditional plan of special-subject supervisors, or itinerant teachers. Such a general supervisor with experience and training should know enough about the place of the so-called special subjects as well as the basic subjects, to supply the necessary stimulus to good teaching. Such a person should not be a subject-matter specialist, but a child specialist, someone with a complete 'over view,' rather than with an exaggerated view of the importance of any one phase of the subject matter."

(Concluded on Page 123)



CORNER OF INNER PLAYGROUND, COLUMBIA SCHOOL, EL MONTE, CALIFORNIA

Radio Education

I—Major Objectives of the Radio Lesson

Emerson D. Jarvis, Superintendent of Schools, Fort Recovery, Ohio

In the advancement of radio education, there have appeared two groups of people who have done much to retard the progress of radio lessons. One group is composed of those who are content to dispose of the subject with a shrug of their shoulders, or a wave of the hand. They dismiss the whole matter as impractical, visionary, and "impossible." The other group is made up of those who paint a picture of twenty to thirty years hence when, in their opinion, the classroom will resemble the classroom of today, with a blackboard, pupils, and a teacher's desk, but with one important factor missing: the teacher will be replaced by a loud-speaker. One teacher will be serving in place of a score or more.

Prudence and common sense will lead the experienced educator to take a position which is between these extremes. From this vantage point, it may safely be asserted that the teacher will never be supplanted by the radio or by any device—not even by television. Most of the teacher's effectiveness lies in his presence—in his eye, in the wave of his hand, and in that invisible, inaudible, most potent of all forces, his personality. No automaton, however versatile or efficient, will ever be a man. Most educators are now, it seems, agreed in this view.

With this viewpoint in mind, it is desirable to formulate some of the major objectives toward which educators may progress in the use of radio lessons. Most of these objectives have been formulated from 572 answers noted in the annual report of the Ohio School of the Air for 1929-30. The answers to two questions were used either directly, or indirectly, in the formation of the objectives. The first question was, "In your opinion what should be the purpose or purposes of the Ohio School of the Air?" The second was, "List the chief benefits the pupils have derived from the radio lessons."

1. To supplement classroom teaching

Every teacher of science knows the task which confronts him in keeping the material to be studied fresh, true, and recent. Especially is this important in view of the fact that textbooks in this, as in other subjects, are usually adopted for five years or longer. Even the most recently published work in a subject, such as general science, cannot be called new, for in this day of inventions, new processes, new theories, etc., a book is moderately out of date before an author is able to have it printed. John Dewey well says that "some present-day situation is always the true starting point for a lesson."¹ Radio lessons can supply this recent material as well as much other subject matter which the teacher is unable to cover without unduly long preparation. This will save the teacher's time and make it available for use in dozens of ways in which it may be effectively used.

Supplementary information in history, civics, and other current subjects may well be brought before the microphone. Few teachers have the time, or the ability, to keep abreast of the progress of all the subjects which they are called upon to teach. Especially is this true in the rural and the small-village schools.

The radio lesson may give much material which is ordinarily too difficult for the teacher to use, or which the teacher is unable to bring down to the comprehension level of the pupils. Much material which has heretofore been reserved for later years in high school may now be placed in grades seven to ten with equally

The present paper is the first of an important series of six articles on radio education. Subsequent articles will deal with practical phases of the problem. The series is the first comprehensive statement of the possibilities and practical utility in elementary and secondary school work. — *The Editor.*

good results, leaving the time displaced for other enrichment.

The radio lesson may supplement the classroom teacher's work and it has been doing so very ably in another way, by coordinating too widely separated subjects. Few teachers have the vision to start with something, e.g., a weather report, and utilize it to teach related geography, science, and history. This is a possibility, through a master teacher, or perhaps it would be better to say through a teacher who has spent much time and thought in preparation of a radio lesson in such a manner as to include several other subjects in the curriculum. This type of correlation will do much to bridge the too-evident chasms between many of our subjects and in so doing will simplify the instruction.

Much unusual material, which, in the hands of the classroom teacher might prove ineffective or be lost entirely, can be presented in a radio lesson by a skilled teacher and assimilated into the experience of the pupil. This spectacular or amusing material will undoubtedly accomplish ends not possible with other means.

Again, the radio lesson furnished a wide variety of sources for information. Previously, our main source was the printed page. Now we have instruction and information available at the same time from many places, and by many persons, each differing from the other.

2. To create, hold, and utilize interest

There is no doubt in the minds of teachers who have used the radio in the classroom, concerning the stimulation of interest, as expressed in the rapt expression, the fixed attention, and the evident enjoyment of all the pupils who listen in. One would expect this to occur the first time a pupil listened to a radio receiver.

The experienced teacher would expect it only the first time the pupils listen as a class, even though it has been a common pastime to tune in at home each evening. But, the gratifying feature is, that week in and week out, there abides this same eager curiosity for the radio lesson.

In the classes which he attended, the writer has known a few outstanding teachers who have been able to hold the attention and interests thus, and there are some teachers who are doing it today. Those people are exceptional, however, yet the radio is a device which can hold the attention like the most attractive teacher. Given gold, most of us can accomplish much; given interest, most teachers are able to utilize it to the last available bit.

The first interest created by the radio lesson was due, of course, to the novelty of the situation. The idea of trying to learn, of being taught, by any agency other than the conventional one was entertaining. But, the personality of the radio teacher, with the active assistance of the classroom teacher, has apparently been projected partly, at least, through space, crystallizing and maintaining the original desired effect.

There is an authenticity about the radio lesson, attracting attention and holding it, which cannot be claimed for books. A fact stated in words by one who should know and who is heard immediately by the pupil, remains in the

pupil's consciousness longer than the same fact read in a printed page. Especially is this true when the teller "dresses up" the fact, a proceeding which is not easily possible in a book. The broadcasting teacher may adopt the friendly conversational tone; he can emphasize some point of importance; even a pause may be used with great effect. It is just the personal touch which is necessary to lend emphasis to a fact or a point of view, to definitely impress it upon the pupil.

New angles of old facts, and new applications of old principles may be introduced to arouse interest, and to connect the student's thinking with previously acquired knowledge. These newer points of view may be the means for clearing up old errors, or reinforcing sound opinions.

3. To stimulate voluntary self-activity along desirable lines

The many problems raised and questions asked by the successful broadcasting teacher naturally lead the pupil to seek further information, or to verify new facts which he has heard. Healthy intellectual curiosity is the best key for unlocking the door to mental development. One research project successfully completed naturally stimulates another. By means of this further study, latent abilities may be discovered and utilized, and the way may be opened for further development of these abilities. The exceptional pupil is especially benefited by the radio lesson.

Contests and prizes may be offered to stimulate activity, which, in turn, will lead to further desirable activity. The broadcasting teachers invite correspondence upon doubtful points or difficult ones. The child responds and, in addition to training in letter writing, necessarily obtains a deeper footing in the subject about which he is concerned. Unless he has done this, or is doing it, most of his queries would not arise.

4. To broaden the outlook or vision of the pupils

Will Rogers once remarked that before he went to London, he had never been farther away from home than the barn. While few children are so fortunate as that, there are still many children whose narrow vision is bounded by the limits of their county or even their own township. Many children, on hearing pronunciations, colloquial expressions, etc., common to other sections of the country, believe them all to be downright errors, not realizing that other sections find us differing from them in the same ways.

It is the belief of the writer that in the radio lies the medium, through which the small rural schools, and even the small high schools, will overcome their isolation. They may tune in on such ceremonies as a president's inauguration, a London naval conference, the opening session of a state legislature. Many children read and remember the details of these ceremonies and much of what has been said, but how few realize that the people partaking in these happenings are living, speaking, human personalities, just as they are themselves? Many a small boy has given up an altogether high ambition because he was convinced that the type of person fulfilling such a high position has some unusual spark of personality, or is endowed with some phenomenal mental quirk not common to the average man.

The radio will convince these children that all men, however great, are mortals suffering from some of the same handicaps which the rest of

¹Ohio School of Air Courier, C. M. Koon, Ohio State Department of Education.

us allow to retard our progress. Teachers may then impress upon these boys and girls that it is the person who attempts things who succeeds.

Master teachers may come before the microphone to present subjects of vast importance, in a way which is much more effective than can be expected of any teacher who must spread her efforts over a larger territory. Noted men may bring messages for which their background of experience especially prepares them. These people will naturally be the ones to present the valuable, tested, new ideas which may alter our attitudes and change the direction of every existence. These master teachers may even present old material, in a way so novel, interesting, and sound that it will appeal to the listener by its crisp freshness.

In addition to presenting new ideas in old fields, we may expect the radio lesson to open doors which we might otherwise be forced to leave closed for lack of time and teaching talent.

Educational centers may now extend their influence over wide expanses of territory, reaching out where instruction of any kind may have found it impossible to penetrate previously. At present, no tool of education is so cheap, or so easily used, in the dissemination of ideas as the radio lesson. It is true that the actual cost of the use of the radio is high. The annual cost of the Ohio School of the Air is approximately \$115,000, but it should be understood that \$75,000 for the use of WLW, and \$20,000 for the use of WEAO, and for radio teachers are free gifts. This means a \$115,000 service for a little more than \$20,000. WLW at Cincinnati, over which the Ohio School of the Air programs are broadcast, is situated in the extreme southwest corner of the state, and yet most of the schools of Ohio report excellent reception. The only ones who report serious difficulty declare that trouble arises from local interference and perhaps 90 per cent of this can be shown to be controllable. This means that one station has served practically two thirds of all the school children of Ohio.

5. To develop further intellectual culture

No educational tool in use thus far has the great potentialities for mass education which radio possesses. Many schoolmen have been inclined to use this fact as an argument against education by radio, just as many people hesitated to use the automobile because they feared accidents. It is true that, because of its tremendous potential power, educators must use the radio wisely, efficiently, and for the greatest purposes, but that is certainly an argument for, and not against, it.

One of the outstanding accomplishments permitted by radio is in the development of appreciation in several subjects of the curriculum, art, music, etc. Many types of appreciations are possible. It will, no doubt, be proved by someone in the near future that these appreciations are more desirable — and certainly at least as desirable — as much of the factual material cramming our curricula already. We will ultimately take educational cognizance of the fact that we must build attitudes and not cram facts. Vivid and lasting impressions may be secured, not transitory ones.

6. To inspire the pupil

A program of national, or international, importance naturally causes the pupil to respond emotionally. He understands that thousands of other people are listening with him to the same event. He understands that he is an integral part in even this remote happening. What boy or girl — or for that matter what adult — is able to listen to the music at a presidential inauguration, or to the address itself, without a definite throbbing of patriotism within his breast? This is a definite moving emotion, the force of which may be directed into other channels, for a wonderful accomplishment.



DR. HENRY H. HILL
Superintendent of Schools,
Lexington, Kentucky

Dr. Henry H. Hill, who was recently elected superintendent of schools at Lexington, Ky., to succeed Guy Whitehead, is a native of North Carolina. He is a graduate of Davidson College, North Carolina, and holds degrees given by the University of Virginia, and Teachers College of Columbia University. His professional experience covers his work as a high-school teacher, principal, superintendent of schools, and state high-school supervisor. Previous to his appointment as superintendent of schools at Lexington, he had held the position of head of the department of school administration at the University of Kentucky.

The master teacher is able to come before the microphone and, by intelligent presentation of a lesson, fire the pupils' imaginations and lend them visions — the energy of which is greater than any which can be conveyed by one who is their constant companion day after day. These emotional effects will unify the student body, bring the teacher closer to the pupils, and open up fields of accomplishment never before anticipated.

In the many isolated one-room schools, the teacher may well spend her time in conveying information and developing skills, but leave for the broadcasting teacher the inspirational studies.

7. To advance the cause of education

By bringing leaders in education and other leading men before the microphone, the importance of education may be brought to the attention of the pupil, and to that other group, which has so much to do with increased opportunity in education — the parent and the public.

The patrons and parents of the school may be kept informed of educational progress through listening to radio lessons. They will become familiar with teaching techniques and a few of the school's problems, and as a result, will understand in a measure at least, the policies of their schools. Without the intelligent coöperation of the public, no school project will succeed.

The teachers and pupils, by listening together, will acquire a common experience, which will lead to a better understanding and desirable relationship. It is often desirable for a teacher to take the attitude of a learner along with his pupils. Young people resent the continued "telling" attitude, although the teacher must use it frequently.

The radio lesson will serve as a standardizing agency, especially in rural schools, for several subjects, and for such general activities as speech, pronunciation, etc.

8. To serve as an instrument of progress

Through the expert use of radio lessons, new methods of teaching may be introduced and new viewpoints may be disseminated. The radio lesson may be used as a means for careful experimentation with these new ideas, through the coöperation of the teachers.

Educational forces of several states may unite their efforts for the good of the schools, and relations between state department and local schools will be strengthened. Educational policies will be more readily understood and easily followed. Understanding and fellowship will be strengthened through the removal of geographical, class, and other barriers. The result must be a homogeneous learning and an increased sympathy with problems of a national scope.

9. To stimulate the efforts of the teacher

The master teacher at the microphone furnishes for the classroom teacher, excellent examples of lesson plans, exercises, improved methods of interesting pupils, etc. The result of this enlightenment will be improved classroom instruction.

The broadcast lesson will do all for the teacher that it will do for the pupil. The teacher will have a refreshing of her teaching power, a renewal of her spirits, and a desire for greater accomplishments. She will have a goal toward which she may strive.

The teacher will have ample opportunity to study the members of the class, looking for individual differences. Oftentimes a broadcast lesson shows peculiarities among the members of the class that the teacher has never had the opportunity to discover before. Remember that all of the teachers' faculties must normally be kept actively at work throughout each school day.

The radio lesson will likewise reveal defects to be avoided — vagueness, useless repetition, volubility, harsh and undesirable tones of voice, etc. These are pointed out with peculiar force, for the entire attention is focused upon the audible sounds from the loud-speaker. There are no mannerisms which will hide errors of speech.

But by far the greatest value to the teacher is the example of a completely organized, definitely purposeful lesson set up for her pupils.

10. To develop habits of concentration, thought, and listening

The radio intensifies life. Secretary Wilbur says: "Just as the after-dinner speeches had to be made shorter and better after prohibition, perhaps the radio will compel intellectual efforts rather than emotional oratory."² The statement made during the first Institute for Education by Radio held at Columbus, Ohio, June 23-July 3, 1930, that many speakers who prove to be best radio teachers have spent one hour's preparation for each minute of their broadcast. This certainly cannot be said of the average teacher, or college lecturer.

Pupils assemble information with a quickness, ease, and sureness not exhibited by other methods. The radio speaker has "boiled down," according to Levering Tyson of the American Association for the Advancement of Adult Education, into a 15-minute talk, what was formerly given in a 50-minute lecture. This is teaching the pupils in terms of what we expect from them — concise, well-organized, rhetorically perfect oral thought.

The radio lesson definitely fixes responsibility for thoughtful listening upon the pupil. However good the classroom teacher, the final value of the lesson depends upon the receptivity of the pupil. He learns early that it is entirely an individual concern for him to be able to listen so closely as to be able to get a mental image of the construction of the broadcast.

²Wilbur, R. L., "Radio Lengthens the Personality and Power of the Teacher," *School Life*, XV (February, 1930) pp. 101-102.

Supervise but Also Humanize

Prof. Harlan C. Hines, Billings, Mont.

In previous articles for the SCHOOL BOARD JOURNAL the writer has pointed out what he felt to be shortcomings in professional school supervision particularly as they were concerned with young men in the profession of teaching. In this brief article he would like to stress a point not touched upon in the others—the need for more humanity in carrying out supervisory regulations.

The American public-school system, during the past twenty years, has been literally consumed by the fires of standardization, and this has been particularly applicable to the training of persons who expect to take up supervisory activities. Standardized training for this is approached from three different avenues:

1. Through agreement among educational psychologists as to the best psychological methods of teaching.
2. Through the enrollment of larger and larger numbers of prospective teachers in fairly well standardized teacher-training courses in psychology.
3. Through personal demonstration of the supervision of teaching by persons especially well trained in the art of coordinating subject matter and method.

The apparent assumption based on such training, when the training has been well done, is that, through the simple expedient of putting it into practice, the outstanding differences among teachers closely supervised will be almost immediately ironed out.

The need for supervision is insistent; we are not discounting that. If all of our communities were so small that each required but one school building and but one teacher, and if the children of each community were never to leave its confines, the need for supervision would not arise, and we might revert to the practice of former days when the school "visitor" did what he could to prevent the children from learning more than he felt was good for them.

Supervision Inevitable

With the need for more teachers and more buildings in each community, however, and with the rapid increase in transiency in America, there has come a concomitant need for some standardization in the subject matter and methods in each grade, for coordination of the work of the various grades and in the various buildings, and even in the various communities. In the smaller districts this task ordinarily falls to the lot of the superintendent or principal, but in the large centers it is delegated to some person or persons especially trained in, or, at least, especially selected for this work.

Any good program of supervision, says William H. Burton, should have, among others, the following underlying principles:¹

1. Supervision should redirect and improve the work of the average and mediocre teacher.
2. It is essentially a cooperative procedure.
3. It is impersonal, but there must be manifested a kindly and sympathetic spirit.
4. It may be inspectorial, but it should never be simply that and nothing more.
5. The administrative aspect of supervision is secondary to the pedagogical.

Problems Involved

As in all other tasks where plans are essential, definite problems take shape. These vary all the way from suggestions as to classroom procedure and the technique of management to those which arise in connection with administrative relationships, and include problems in selecting and organizing subject matter, in testing

and measuring, in training teachers in service, in visiting and conferring with the teacher, in rating the work of the teacher, etc.

To meet these problems successfully, the supervisor himself must be an artful teacher, as well as one trained in the principles of learning and in the principles of method. He also should not only have had courses in which these principles are elaborated, but practice in supervision as well. He should be well informed in classroom management (routine work and discipline), and should have had experience in curriculum making, testing and measuring, and kindred activities. Above all, he should have been caused to see the philosophical principles underlying education, and be able to articulate the special aims of classroom procedure with the general aims of education.

Supervision Cooperative

Anyone will agree that the ideals which prompt and motivate supervisory activities are entirely worthy, but the application of supervisory theories often produces schisms and disagreements. Usually this is due to clash of individual minds—the teacher, who feels that she knows better than anyone else the needs of her children, against the supervisor, who is thinking in terms of the larger needs of the school system. This is natural, particularly with the well-trained teacher who, having submitted to many slings and arrows of outraged training-school fortunes, sees little need for the constant check the system puts upon her work. In her way of thinking, she is not nearly so normal as the child she is endeavoring to educate, since, as a result of her training, she tries to provide for the latter a task suited to his abilities, grants him permission to formulate a plan, and guarantees him freedom enough to work it out. Not so with her; the supervisor gives her a task and a plan, and circumscribes her freedom—or so she thinks.

This may be true. Some supervisors have not come to their positions for reasons of supervisory attitudes alone, and in their knowledge of customary human reaction are woefully short. They become officious, dictatorial, high-handed, and they insist upon adherence to standardized processes, even in the face of necessary exceptions. They forget that they are dealing with the impressionable, sensitive human, and that the condescensions they are willing to make are building no support for the system they represent.

The Teacher's Acceptance of Supervision

The main difficulty here is similar to the one met in connection with introducing life situations into the classroom. Just as the child does not *choose* to go to school and is not *paid* for so doing, the teacher, under the surface, is likely to feel that she did not "hire out" to the

THE ABUNDANT LIFE

Every teacher is three persons in one. She is by occupation a teacher and spends a large share of her time in helping boys and girls to develop into worth-while men and women. She is also a member of a professional group and, therefore, concerned with those activities which make for the good of the profession as a whole. Finally, but most important, she is a person, a human being, with the opportunity of living a normal human life. These three phases—teaching, professional, and personal—are closely interrelated. The wise teacher plans proper balance among these three elements of her life.—Frank Cody.

supervisor, is not paid by the latter, and, therefore, is under no obligation to him.

The only way around this situation for both is obvious. The teacher should see that when she accepted employment in a system where professional supervision is in vogue, she (automatically) waived her rights to go against the directions of the field representative of the superintendent who, in turn, is the representative of the board of education which, in turn, pays her salary from funds provided by the public. The fact that she does not see this is due to the further fact that she is too close to her immediate and personal problems, in which self is nearly always at the fore.

The supervisor, on the other hand, should see that the enterprise in which he has become engaged is purely cooperative in character, and that, while he may find weak, introverted teachers here and there who need and expect to be told what to do and how to do it, there are many with whom a "jolt of silence" or a single word of encouragement is all that is needed. Even in cases where there is open violation of accepted rules of procedure, one should not rush in to criticize these until all the facts are known; and never should radical changes be instituted abruptly. The supervisor who embarrasses the teacher in the presence of the pupils has, figuratively, taken her by the collar and dragged her through the door.

Difference Due to Sex

So many of our teachers are women, and so many of our professional supervisors are of the same sex, that difficulties sometimes arise for this reason alone. Women do not find it so easy as men to cooperate with each other. This probably is not traceable to important inherent differences in the sexes, but results from environmental conditions. For so long the activities of women were confined to the home and, having so few contacts which demanded cooperation with each other, they had little practice in the art. Then, too, women have vied with each other independently and singly in attracting the male of the species, and this social habit has carried over, with its jealousies and poignancies, to their professional and business associations. Men, on the other hand, have been forced into cooperation with each other for protective purposes, and they have been at this long enough to react with alacrity to any appeal along these lines.

Although there are signs that, as women get more practice in working together, they tend to do better at cooperating, women teachers are sometimes more willing to accept, and even welcome, criticism and advice from men supervisors, while disdaining that of members of their own sex. Since women are in the majority as teachers, the needs of supervision would require, it seems, the appointment of men supervisors only, but this is out of the question, for several reasons.

Men are not prepared by nature or training to supervise the teaching of young children, and, while some of them seem to possess an understanding of child life not characteristic of their sex, women, through the power of intuitive thought, are so conscientious, sympathetic, and kindly, and so responsive to instinctive maternal promptings that their gentler guidance is highly preferable.

The Important Task

Just as the important task in instruction is to teach the child to think and do, so in supervision is the work centered on perfecting the teaching art. The child is the thing, and the school system, theoretically at least, exists for

¹Adapted from *Supervision and the Improvement of Teaching*, pages 10-12.

him. From the superintendent down to the janitor, everything that is done is pointed toward the improvement of the child through formal training, and both the teacher and the supervisor must keep this constantly in mind. The supervisor, therefore, does not visit the classroom just to rate the teacher in her work, but to *help* the teacher over the rough stretches where help is needed. Among beginning teachers there are few who do not need help during the first year or two; and this is especially true when professional preparation has been inadequate.

The superintendent of schools in one of our largest cities told the writer not long ago that it is necessary for that city to employ a larger corps of supervisors to undo professional training provided by some of the near-by teachers' colleges, and that preparation for primary work, particularly, was so meager that the supervisors must initiate complete courses of study for the temporary appointees. There is, then, a real place for well-trained supervisors, and this is coming to be a recognized fact. In one city of two hundred thousand population, the school authorities have seen so well the need for improving teachers in service that they not only have provided funds to help defray expense of attendance at summer schools, but have trained all school principals to spend the major portion of their time in visiting classrooms.

Eliminating Wastes

It is the supervisor, after all, who is in a position to do the most in helping to eliminate wastes in teaching. Among the intrinsic causes for waste in teaching efficiency are: lack of capacity in a relatively large number of persons employed — perhaps about 10 per cent; lack of opportunity for growth and advancement in the position assigned; lack of interest in the position assigned; insufficient training for a particular position; the deterrent effects of improper environment; lack of adequate preventive measures in the promotion of health; lack of close coöperation with immediate superiors; misinterpretation of working directions; the nervous strain of teaching; improper supervision; lack of tangible rewards; too frequent change in methods; and the migratory character of the work itself.

A glance at these causes will reveal that the supervisor has it within his or her power to eliminate most of them through recommendation to higher authorities, or through candid conference with the teachers thus influenced or affected. There are few reasons for dismissal, and these are fairly well defined. They are: neglect of duty, disloyalty, immorality, unprofessional conduct, insubordination, ill health and physical disability, or any reason which might prompt the annulment of a teacher's certificate. If proved incapacity is added to these, we have all the reasons a supervisor might draw up to guide him or her in recommending dismissal. The other causes for waste are sometimes eliminated by recommendation for transfer or for rest.

Observation of Teaching

Supervision of teaching is an extremely difficult task, in that the individual differences in teachers put so severe a tax upon the judgment of one person. However, we cannot have a supervisor for each teacher and, so long as we are likely to have wastes in teaching efficiency, the judgment of that one person must form the basis for most recommendations, and that judgment may be arrived at only through visits to the classroom. The more frequent such visits before judgment is passed, the more successful will become the work of the supervisor.

In observing teaching some supervisors utilize long lists of qualities for which to look, but most all lists may be resolved to a few main heads. The visit is almost sure to reveal:

1. Evidences of or lack of preparation on the

part of the teacher — a daily plan to keep the day's work clear, definite, and concrete, and to keep the subjects so aligned that the time of none is encroached upon.

2. The presence or absence of industrious productivity.

3. A definite aim to which the teacher returns repeatedly in presenting a given lesson.

4. Appropriateness of method — drill, problem, appreciation — in light of the aim.

5. Value of questions asked — the trend and sequence of questions in line with the aim.

6. Participation and interest of the class.

The supervisor will look also for special capacities or handicaps, and will report upon coöperation of the teacher with the pupils, with other teachers, and with principals and supervisors. In fact, the whole situation may be narrowed down to one in which coöperation is the outstanding factor. Even the teacher untrained in subject matter and method sometimes may offset these lacks in training to a great extent by being willing to coöperate at every turn; and, if the supervisor, short in like qualities, shows the same willingness, the two will do far more for the school than ever could be accomplished by two well-trained but pugnacious backbiters.

The Rating of Teachers

Whether or not we agree that the rating of teachers is good psychology, especially when they *know* they are being rated, most supervisors are required to translate their judgments of teachers into numerical form, and we find such qualities as industry, technique, personality, coöperation, possibilities for growth, etc., listed as those which determine in the long run what disposition is to be made of the teacher and whether or not her salary is to be increased. There seems to be no way out of this, for, unless we have some sort of reminder of things for which to look, we forget them, and come to be governed by likes and dislikes. To be strictly impersonal is a difficult undertaking, when, for instance, one is in the presence of a strong personality.

The Friendly Road

There is a tie, however, which makes success possible to nearly all who are willing. Few people there are who do not respond to friendliness. The writer, for one, has never seen a supervisor

who was not just as human as the rest of us, and most of the teachers we meet are kindly, human "folks" who are trying to render satisfactory service. The trouble is that we have so stressed the scientific side of supervision that the real helpfulness which results from friendliness has been lost out somewhere along the line.

Doubtless there are two factors which are responsible for this: (1) Supervisors are too frequently required to produce facts as opposed to results; and (2) they pass this spirit on to the teachers who, in valiantly trying to produce facts, produce results that are disastrous.

We talk so much about getting at the individual difficulties of pupils, and when we do discover those difficulties we find out that they are most frequently based in personal, human problems. Should this not also be true with the individual difficulties of teachers? My guess is that most of such difficulties arise through misunderstanding of what is wanted, rather than through inability or unwillingness. Coöperation, after all, is not merely doing what the other fellow wants you to do; it is operating together for a common object, a "profit-sharing," to use an industrial term. To understand each other perfectly, therefore, is our real goal. When we sum this up, we see that the rules for scientific supervision — inspection, observation, conference, rating, etc. — are very likely to produce static in otherwise cleared channels, and, unless we effectively permeate professional supervision with a spirit of coöperation, i.e., helpfulness, we lose sight of the main task, that of the education of the child. If somehow we can keep the education of the child in the forefront, we can all work together harmoniously.

The fact is, the men and women who have done the most for American education are not those who have frozen to their control sticks — measurements, surveys, vocational placement, salary schedules, professional requirements, etc. They are, on the other hand, those who have been able to use these as tools of the profession while, at the same time, they have had a vision that out-supers supervision, and, putting self in the background, have helped, by kindly words of encouragement, to humanize this process we call education. Isn't that true of your best board members, the best superintendents you know, your best supervisors, and your exceptional teachers?

Municipal and State Concern of Schools A School-Board President's Practical Conception

The question of municipal authority over the schools, in the light of the state's concern in popular education, was recently discussed by Mrs. Elizabeth M. Mehan, president of the Milwaukee board of education. If the cause and care of the schools is a function of the state, she contends, such concern applies to an entire state. She says:

"If the cause of education is not a subject of municipal regulation, the municipality cannot touch it or interfere with it in the slightest degree. School buildings are an essential agency in the state's educational scheme, and to allow municipalities a voice in the construction, repair, control, or management of the school buildings within their borders is to yield to them the power to frustrate the state's plan in promoting education throughout the state.

"If power be granted to interfere in this respect, there would be no logical limitation to municipal interference with the district schools. These considerations lead irresistibly to the conclusion that, although the boundaries of a school district may be coterminous with the boundaries of a city, there is no merger of the school-district affairs with the city affairs. They remain separate and distinct units of government for the purpose of exercising separate and

distinct powers, and for the accomplishment of separate and distinct purposes.

"Since public education is a state or governmental function, the state may use whatever agencies it sees fit for the administration of its schools. The State of Wisconsin has seen fit to place the management of the public schools in our city in a board of education, consisting of fifteen directors, chosen by the votes of the electors from the city at large.

"Since 1907, our school administration has been largely divorced from city departments and offices which, theretofore, had been designated as agencies of the state with respect to school affairs in this city. However, this separation is not complete, and until it is complete, school administration cannot possibly become wholly efficient.

"It is recommended, therefore, that the legislative committee of this board shall, as soon as is practically possible, prepare legislative bills and make every effort toward their enactment into law at the next session of our state legislature, whereby the board of school directors shall have power and authority, in addition to the powers now in it vested, to perform all acts relating to school affairs which are now in the hands of municipal officials."

Eliminating Noise in Schools

R. L. Lindahl, Acoustical Engineer, Chicago, Ill.

We are rapidly becoming noise conscious. A great deal of publicity given to noise in the press, and the establishment of noise-abatement commissions in our large cities are evidences of this fact. Rapidly increasing sales of commercial quieting materials for use in offices, banks, schools, and hospitals, testify to the growing commercial importance of eliminating noise. It is only natural in this day of modern education that we should examine this pertinent factor, to determine if it has any detrimental effect upon the efficiency of our educational system.

In the little red schoolhouse of fifty years ago but little attention was paid to ventilation, heating, proper lighting, posture, and other details which today receive serious consideration. Neither was noise considered as a problem at that time, but today in our attempts to increase the efficiency of our school equipment, this factor must be taken into account.

There is no universally accepted definition for noise, although, at the present time, a number of committees of different engineering societies have engaged in a study of the subject with a view toward standardizing definitions and units of measurement. Noise is sometimes defined as sounds having no definite pitch, nor meaning, as the rattling of a sheet of paper, the click of a typewriter, or the roar of traffic. For our purpose, however, noise is to be considered as any sound, not directly connected with the task being engaged in, which may have a detrimental effect upon the performance of that task. Thus, the singing of a music class may be considered as noise in an adjoining study hall, if it prevents effective study, although it is not noise in the music room.

Effect of Noise Upon the Individual and Output

After defining the subject, it may be asked just what effect noise has upon output and individual well-being. This was not definitely understood until a few years ago, when Dr. Donald A. Laird, of Colgate University, pointed out that it caused a fear reaction when present in definite amounts. It has previously been recognized by scientists that a very loud or sudden noise caused a fear reaction. The essential elements of such a reaction are: (a) increased tension of voluntary muscles, (b) lessened activity of involuntary muscles in the digestive tract, (c) increased pulse rate, (d) increased blood pressure, (e) diminished secretion of saliva and digestive juices, and (f) a vague feeling of apprehension, sometimes accompanied by restless general behavior.

In consequence of these effects, typists working in a noisy room consume about 20 per cent more calories of bodily energy in typing, than the same typists do when working in the same room with the noise properly reduced by absorption. Typists working in a room of average office noise slowed up after two hours of continuous work, while the same typists in a quieted workroom gained somewhat in speed, due to the well-known warming-up phenomenon.

It is difficult to measure accurately the exact effect of noise, since in some instances, it is almost impossible to retain proper control over other factors. This is true of other details to which we pay attention and seek to correct, but upon which no accurate laboratory data has ever been collected as to just what was the exact quantitative effect. For example, we know that poor lighting and poor ventilation decrease efficiency, although we are not sure just how much. It is, therefore, reasonable to seek to combat the ill effects of noise which are conceded to be present.

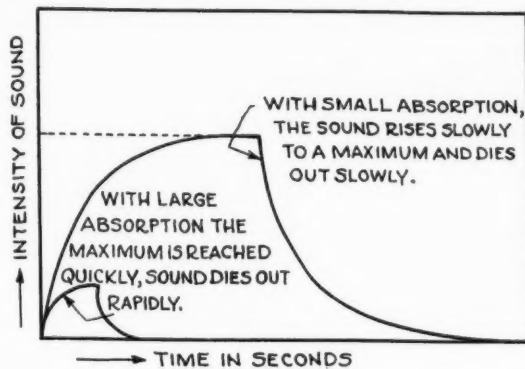


FIG. 1
Graph showing effect of absorption of the intensity to which sound builds up in a room.

Specific Noise Effects

It may be interesting, however, to quote from an article by Dr. Donald A. Laird, entitled, "The Effects of Noise," published in the *Journal of the Acoustical Society of America*, for January, 1930:

"Accuracy in immediate memory for nonsense syllables was increased 15 per cent and delayed memory was increased 8 per cent, by reducing a complex noise from 50 decibels¹ to 40 decibels.

"A reduction of a complex noise from 50 decibels to 40 decibels resulted in an increase of slightly more than 30 per cent in the speed of mental multiplication of three-place by three-place numbers. No changes in accuracy was noted.

"Human beings in response to the unexpected sounding of an electric automobile horn breathe faster, after a momentary checking of the rate. The breathing is also deeper and the rate is irregular.

"A group of office workers engaged at a variety of machine operations in the home office of an insurance company showed a 12 per cent increase in output when the noise level was decreased from 45 decibels to 35 decibels. No other changes were made in the office. The workers were on a bonus system for which production records were kept regularly. This increase in output is so great that the officials are inclined to attribute some of it to added skill from practice, although the workers were experienced at the beginning of the year of experimental observation.

"In another instance, it was reported that moving the assembly department of a temperature regulator company from an adjoining noisy boiler shop to a quieter room, resulted in lowering rejections at inspection from 75 per cent to the low figure of 7 per cent. The same reduction in noise through the re-location of the

¹The term "decibel" is defined later in this paper.

ENERGY UNITS	LOG ₁₀ E.U.	DECIBELS
10,000,000,000	10.0	108
1,000,000,000	9.0	100
100,000,000	8.0	90
10,000,000	7.0	80
1,000,000	6.0	70
100,000	5.0	60
10,000	4.0	50
1,000	3.0	40
100	2.0	30
10	1.0	20
1	0.0	10

FIG. 3
A loudness scale, showing relation between physical energy and loudness as perceived by the ear.

department resulted in the output jumping from 80 to 110 assembled units per unit of time. In another department, removing the noise of a large ventilating fan, resulted in output rising 12 per cent.

"A 42 per cent reduction in errors in the telephone operating room of a telegraph company followed a lowering of the noise level from 50 decibels to 35 decibels. An acoustical installation was used for reducing the noise. There was also a 3 per cent reduction in the cost per message.

The above examples illustrate the effect of noise and the gain resulting through its decrease. The old saying that we get used to noise, is not true. The inevitable, though unconscious, effort to build up a resistance to noise requires a constant expenditure of energy. Another objection to noise is that it has a masking effect upon speech. It decreases the ability to recognize speech sounds, making it necessary for the listener to concentrate to shut out the effect of the disturbing noise, and for the speaker to talk loud enough to overcome it. This feature has an important influence in classroom work.

Elimination of Noise at Its Source

The most efficient way of overcoming a noise is to remove it at its origin. For example, a noisy ventilating system may sometimes best be quieted by cutting down the speed of the fan, and by placing the fan and driving motor upon an insulated base to prevent its vibration. Some types of noises, however, cannot be overcome directly, as the noise of traffic outside, or of typewriters in a typing room, or footsteps in a corridor. It is then necessary to resort to the indirect method of providing absorbent materials which absorb the noise and thus decrease its loudness.

In a typical school, having forced air ventilation, it is essential that the fans and motors be placed upon insulated bases, that they be run slowly enough to overcome the "whine" resulting from high speed, that the ducts be large enough to overcome the noise from a too rapid flow of air, and that a canvas sleeve be interposed between the fan and the duct to reduce the transmission of vibration. If the ventilating ducts act as a gigantic speaking tube, conveying faithfully the noise of the motor and fan to the rooms in which they terminate, it is desirable to line the duct with an absorbent material to muffle these sounds. The latter procedure can be accomplished in most cases, by installing an absorbent material a few feet back from the grilles. In rooms having vibrating machinery, such as manual-training rooms, it is well to place the machinery upon isolated bases of cork, fiber board, or rubber. It may help to place the manual-training-bench legs upon similar pads, to prevent the transmission of vibration into the rigid building structure.

Reducing the Noise Level

The most common method of reducing the noise level in a room is by the installation of sound-absorbing material upon the walls or the ceiling. Ordinary building surfaces, such as wood, glass, cement, plaster, and linoleum, absorb only 3 to 5 per cent of the sound which strikes them, reflecting over 95 per cent. The sound travels at a speed of approximately 1,100 feet per second, and it may thus be reflected several hundred times before it is sufficiently reduced in intensity to become inaudible. By installing a sound-absorbent material, the sound waves are rapidly reduced in intensity so that they do not have a chance to build up in loudness. In a room having only hard nonsound-

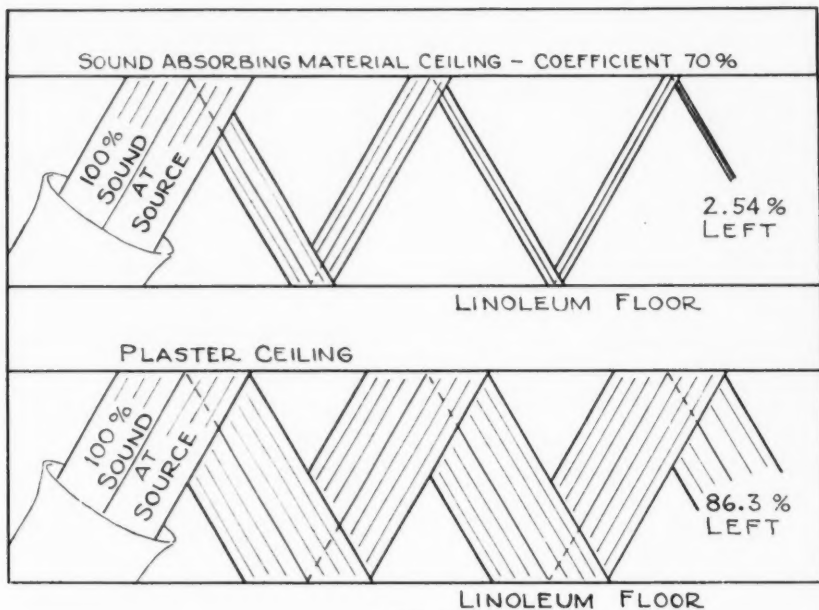


FIG. 2
Chart illustrating the effect of a sound-absorbing material upon a ceiling.

absorbing surfaces it is possible for the sound to last from 5 to 10 seconds, and to build up to several times its original energy. The use of an absorbent material decreases the number of reflections necessary for the sound to become inaudible, and prevents the sound from building up in intensity.

Figure 1 illustrates the effect of sound absorption in a room, as illustrated by Prof. F. R. Watson, in his book, *Acoustics of Buildings*. Figure 2 illustrates the effect of treating a ceiling with a sound-absorbing material, having a coefficient of .70, meaning that it absorbs 70 per cent of the sound which strikes it. In an untreated room, after five reflections, the sound has been decreased in intensity only 14 per cent. In a room having the absorbent material upon the ceiling, the same sound after five reflections has been diminished in intensity 97½ per cent. In a room having a 10-ft. ceiling, the time required for this action to occur would be less than .1 second. Since modern building practice has decreed the use of hard nonabsorbent materials, the need for sound-quieting treatment has become intensified, and it is usually necessary to supply the needed absorption in the form of some one of commercial acoustical materials upon the market.

Energy Contained in Sound

The loudness of a sound as heard by the ear is not proportional to the energy contained in the sound, but it bears a logarithmic relation. A sound containing twice as much energy as another is not twice as loud. Figure 3 illustrates a loudness scale invented by Mr. Wallace Waterfall. The range is from 0, at which point the human ear receives no sensation, although energy may be present, to approximately 108, at which point the sound is so intense that it is not only heard but felt. The steps are in decibels, a unit representing approximately the least difference in loudness which the human ear can perceive. Thus, there are approximately 108 steps in loudness between the least audible sound and the loudest sound one can perceive. If we assign a rating of 1 to the energy content of a sound just audible, we can express the energy content of any sound in terms of the content at the minimum audibility. In going from 1 to 10 energy units, we shall have passed through 10 barely perceptible steps of loudness. Let us call the loudness of this sound 1. To double the loudness, we should increase the energy content not to 20 units, but to 100 units. To triple the loudness, we should raise the energy content to 1,000 units. It will be seen that the loudness is 10 times the logarithm to the base 10 of the energy ($10 \log_{10} \text{Energy Units}$). It is evident that the ear can register an enor-

mous variation of sound energy, with but a comparatively small number of loudness steps.

Relief From Noise

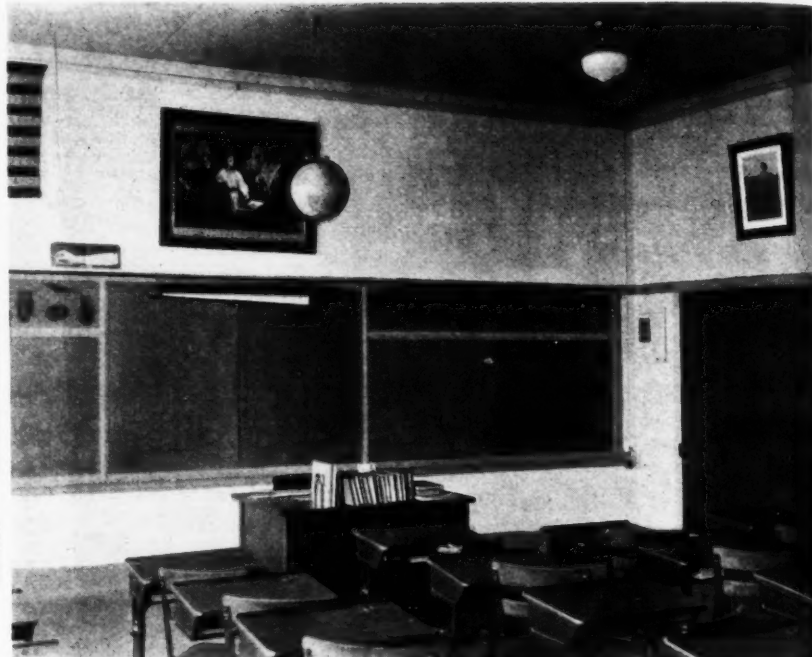
We live in a constant sea of noise. Even in a quiet city apartment the noise level is usually from 15 to 20 decibels. In the lower noise levels there are no appreciable ill effects. As we progress upward, however, the annoyance increases rapidly. For example, a sound at 60 decibels is considerably more than twice as annoying as a sound of 30 decibels, and a sound of 100 decibels would be almost unbearable, and certainly more than three times as annoying than a sound of 33 decibels.

Any slight reduction in the noise level brings a sensation of relief, considerably more than would be indicated by the numerical figures. For example, an aviator donning a helmet succeeds in reducing a noise in an open cockpit of a

plane only by about 15 decibels, that is, from 100 to 85, but the difference in annoyance is very great. A reduction from 30 decibels to 15 decibels would not bring nearly the relief. We may compare this scale with a thermometer. At 100 degrees one welcomes the shade of a tree which reduces the temperature by 10 degrees and provides considerable relief, although the 90 degrees under the tree is still quite warm. At 70 degrees, however, a decrease of 10 degrees is not nearly so important. In noisy rooms, therefore, it is necessary to accomplish as much of a reduction as possible by the use of absorbent materials, although the noise cannot entirely be overcome.

Rooms Requiring Quieting Treatment

It is not possible to state offhand just which rooms in a school need quieting treatment, since this entirely depends upon local conditions, but



SOUND-ABSORBING CEILING IN GRADE CLASSROOM,
CONSOLIDATED SCHOOL, MONTEZUMA, IOWA
Proudfoot, Rawson, Souers and Thomas, Architects, Des Moines, Iowa



GYMNASIUM, ROYAL OAK HIGH SCHOOL, ROYAL OAK, MICHIGAN
Frederick D. Madison, Architect, Detroit, Michigan
Note how an attractive ceiling can be obtained with a quieting material.

it should not be imagined that the noise problem exists only in very large schools, and that the small or medium-size school has no noise problem. Most of the objectionable noise is generated within the school itself, as the placing of schools in quiet locations usually eliminates disturbance from traffic. Twenty typewriters in a typing room make just as much noise in a town of five thousand, as in a city of five million.

The school executive may ask, "What rooms will I *probably* find most noisy?" Depending upon the particular school, there are, in general, certain rooms which often require attention. The worst difficulty is sometimes encountered in the corridors. Long, bare "speaking tubes," with plaster walls and ceiling, serve to convey their full length the sounds of footsteps and conversation, amplifying rather than muffling the disturbance. Covering the ceiling with an absorbent material would localize the sound, so that it would be unnoticeable a short distance away. Resilient, "soft" floorings, as cork, linoleum, and rubber tile, owe their quieting effects to the fact that they muffle footsteps at the point of origin, absorbing some of the energy at the point of contact. They have no more sound-absorbing value, however, than ordinary plaster, so they cannot be said to absorb sound. Corridor treatment has been used in hospitals a great deal, but only a comparatively small number of schools has realized the benefits to be derived from such a procedure.

The rooms in which noisy machines operate, such as typewriters, adding machines, and sewing machines, are susceptible to treatment. Not only does the use of absorption better conditions within the room itself, but by absorbing part of the sound at its origin, much less remains to be transmitted to other rooms. In the case of gymnasiums, swimming pools, and manual-training rooms, this may be an important feature.

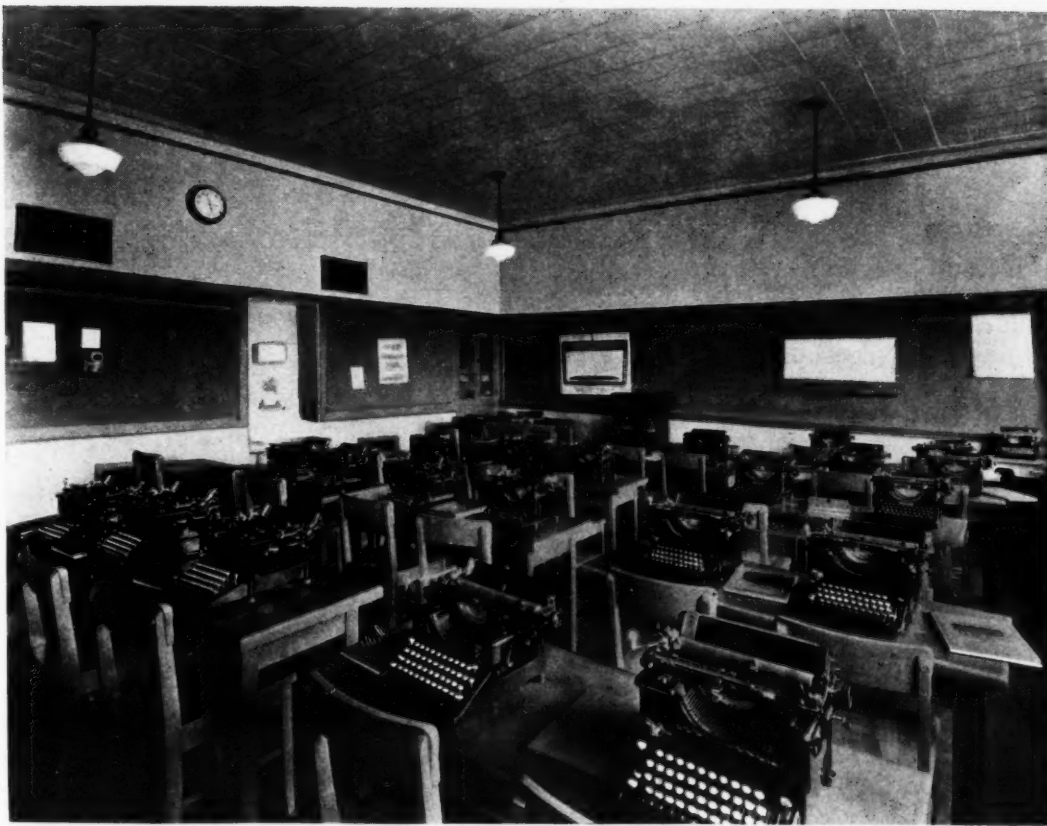
The Experience of Architects

In the classroom itself the quieting effect of an absorbent material not only creates an atmosphere more conducive to study, but by decreasing the loudness level of extraneous noises, it is easier for the teacher to speak and to be understood, since he does not have to raise his voice to overcome the interference.

To obtain further data upon actual experience, a letter was written to a few well-known school architects. Excerpts from the replies received are interesting. Mr. Oren Thomas of the firm of Proudfoot, Rawson, Souers & Thomas, of Des Moines, Iowa, writes in part:

"With the increasing use of metal and non-absorbing materials in the fireproof school building during the past ten years, we have found that the usual noise in the classroom corridors, etc., is becoming more objectionable. We have attempted to correct this to a certain extent purely from the practical standpoint, and not involving an especially engineering consideration. We have improved the condition in classrooms, corridors, and in fact in all areas of the buildings but toilet rooms, by the use of *sound-absorptive material*² applied to the ceilings in square or rectangular shapes with the bevel-edge-joint construction.

"This material has been left unpainted and a color scheme used in the rooms to harmonize with the original color. It is surprising how this improved the condition, although theoretically there might be some questions as to its merits. In a recently constructed school this was used in a portion of the academic rooms, the remaining rooms having plastered ceilings. The teachers and superintendent of schools pointed out the difference so strongly to the board of education that they are now applying this regular construction under the plastered ceilings in order to obtain the same condition as existing in the other rooms.



TYPING ROOM, GROSSE POINTE HIGH SCHOOL, GROSSE POINTE, MICHIGAN

George D. Haas, Architect, Detroit, Michigan

An acoustical material was used upon the ceiling of this typing room to relieve the excessive noise condition.

"We use the unit-type ventilation in the classrooms and although this apparatus is now made free from mechanical noises there was always a hum caused by the velocity of air traveling through the restricted areas. This, of course, would be noticed more distinctly in an unoccupied room, but it is objectionable to some teachers and occupants even when the room is filled to capacity. We have not had this objection with the standard equipment when this acoustical treatment was used on the ceiling."

Mr. A. W. Balle, Associate of Malcomson and Higginbotham and Trout, of Detroit, Michigan, states:

"In 1917 the McMichael School plunge was treated with *sound absorptive material* and all city school plunge rooms since that time have been treated acoustically in some manner with success.

"We have treated with good results many gymnasiums by using $\frac{1}{2}$ in. or $\frac{3}{4}$ in. industrial board-roof forming on steel purlins over which is placed poured gypsum roofs. This method gives a very cheap fireproof roof, with good insulation and acoustical properties, which is not at all bad in appearance from the underside.

"We have also successfully treated the rifle range in the Southeastern High School with *sound absorptive material*² with good results. We have used *sound absorptive material*² in school-corridor ceilings, in music rooms, and auditoriums in the walls and ceilings."

A Novel Use

A novel and interesting use of absorption was in the installation of an acoustical material upon the walls and ceilings of a music room in a school for deaf children in St. Louis. The purpose was to absorb all sound, leaving only the wood floor vibrate, through which the children could feel the music.

Administrative offices in some schools are sometimes very noisy, and do not have the quiet atmosphere which is helpful in lending dignity to the office. This may be accomplished by the use of absorption materials. In study halls and libraries, where it is necessary to maintain quiet

in order to provide proper study conditions, acoustical treatment may be used to reduce disturbing noises to a minimum. In the case of chorus, orchestra, and band rooms where the music penetrates to adjacent rooms and is disturbing, it may be possible to reduce the annoyance by installing proper treatment within these rooms. This also has the effect of providing proper acoustical conditions.

Leading commercial organizations have discovered that acoustical treatment pays for itself when properly used in general offices, typing rooms, conference rooms, and private offices. This decision is the result of careful investigation as to the gain in efficiency both in mechanical and mental operation. Many conditions in such industries are simulated to a great extent in ordinary schools, and school authorities may well follow the example of commercial leaders in availing themselves to the fullest extent of the relief afforded against disturbing noises by the proper use of absorption. Commercial materials are available upon the market having coefficients from .20 to .70, that is, they absorb from 20 per cent to 70 per cent of the sound which strikes them. One sound-absorbing unit, the amount of absorption furnished by a square foot of surface which absorbs 100 per cent of the sound which strikes it, is the basis of comparison for such materials. A square foot of material having a coefficient of .50 absorbs 50 per cent of the incident sound and 2 square feet of such a material are necessary to furnish 1 sound-absorbing unit. It should be remembered that, in buying absorbing materials, one is buying sound-absorbing units and not surface coverage. There are, of course, other considerations, as cost, appearance, maintenance, depreciation, paint-ability, and sanitation.

To obtain expert advice upon the quieting problem of any school, one may consult either the architect who designed the school, or the engineering staffs of reputable manufacturers of commercial absorbent materials, who furnish such service without obligation. There is little literature upon the subject as the field of noise quieting is new, and the best source of information is from architects and engineers who have had practical experience. While not all problems are capable of easy solution, many faulty conditions can be alleviated by judicious treatment.

²Commercial names or references are omitted.

School Administration at Work

It is well to think well; it is divine to act well. — Horace Mann

Accounting for the Use of Supplies in a School

Supt. G. O. Lindgren, Hope, North Dakota

The problem of handling school supplies is important only as it relates to the educational activity of the school. Supplies are needed for efficient instruction, and must be available when required, in quantities adequate for efficient service. These supplies represent an expenditure of public money and should be accounted for in an efficient manner. Waste must be eliminated, and economical use assured.

In the smaller schools, with enrollments less than 500 pupils, the supplies are usually distributed by the superintendent himself or by an assistant. In some instances the work is done by the janitor. Systematic records are seldom kept; this is especially true of the smaller systems where the superintendent is required to teach several classes a day.

The distribution of supplies, and the checking of their use requires time. If the superintendent does the work, it is highly essential that it be done quickly and accurately, so as not to divert his energy from the more important educational activities. If the work is done by an assistant or by the janitor, the plan of accounting must be relatively simple and easy. In any event, the plan of accounting should make quickly accessible such data as: the amount on hand at any given time, the amount used, what department or teacher received the supplies, supplies returned, and dates of issuance if desired.

The writer has used the plan of accounting for the use of school supplies, shown in Table I, for a period of two years with success.

At the beginning of the school year, the supplies to be used are listed on a manila folder. After the name of the article or below it, the unit quantity is designated, such as reams, pounds, etc. To the right of the name, the number of such units as are on hand at that time is written. To the right of each number, the number next below it is written across the sheet, as shown in Table I. Plenty of space must be left above and below each line for notations. A code is then adopted to designate the informa-

Getting Results from Reports to Parents

Harold P. French, Menands School, Albany, N. Y.

One of the great needs of the public-school system is closer coöperation between parents and teachers. Parent-teacher associations have been formed and much time and effort has been spent in trying to bring about the needed coöperation. Despite our efforts, the homes that are most in need of the contact have seldom been touched, and a large percentage of the fathers and mothers know little concerning the wishes of the school officials in regard to their sons and daughters. Newspaper publicity, bulletins, and report cards have been tried. Newspaper publicity concerning the schools is passed over for the sport sheet, or the society column, bulletins and pamphlets are not read, and report cards are often misunderstood. In every case, the reports lack the personal element which is needed in order to secure the interest of the parent.

A few generations ago these difficulties did not exist. Teachers lived in the communities in which they taught and were acquainted with the parents of the pupils. They were afforded continually the opportunity of meeting these parents and of talking with them about the indi-

TABLE I

A PLAN OF ACCOUNTING FOR THE USE OF SUPPLIES IN A SMALL SCHOOL

		2	1	7	7	5	4	4	10/1											
1.	Theme paper (Rms)	30	29	28	27	26	25	24	<u>23</u>	22	21	20	19	18	17	16				
	8 x 10-1/2																			
		15	14	13	12	11	10	9	8	7	6	5	4	3	2	1				

Construction paper (Pkgs.)

		1	2	3	4	5	6	6	10/1											
3.	Red	10	14	13	12	11	10	9	<u>8</u>	7	6	5	4	3	2	1				
4.	Green	10	11	10	9	8	7	<u>6</u>	5	4	3	2	1							
5.	Yellow	1	2	3	7	6	5	4	<u>10/1</u>	10/1	11/4									
	etc.																			
6.	Chalk (Boxes)	24	23	22	21	<u>20</u>	19	18	17	16	15	14	13	12	11					

5 4 3 2 1 0

Codes

1. - ~~30~~ Line through number indicates supplies issued.
Number written above indicates the grade receiving the supplies

1. - 10/1
23 Square indicates inventory on date written above it.

4. - 8 Line below number indicates goods returned; a vertical line means that they have been reissued.

5 & 6 10/1
12 A circle indicates goods purchased on date written above.

SIMPLE FORM AND CODE USED FOR CONTROLLING SUPPLIES STOCK

tion desired. The use of the code is also illustrated in Table I.

This plan is simple, easily kept, and readily understood. It is very flexible, and by an extension of the code can be made to yield almost any desired information. If supplies are sold to the pupils, the plan can be made to furnish a check on the cash to be credited for any type of commodity, through the use of an appropriate code.

Checks on the use of supplies can easily be made at any time. Summaries can be made at the end of the year to find the total amount used, the amount used by each grade or instructional unit, and to estimate the needs for the coming year. Properly used, the plan will yield the busy superintendent whatever information he desires with a minimum of effort.

were able to notify parents at regular intervals concerning the success with which pupils were pursuing various subjects. In order that the school might feel certain that the card had been examined, one of the parents was obliged to sign it each time it was sent home.

At first, academic subjects, attendance, and possibly deportment were the only things scored, and percentage marks were used to designate scores. Gradually, certain school officials felt the need of reporting on habits, ideals, and concomitant learning, as well as subject achievement. Others decided that percentage marks were not satisfactory, and the use of letters, graphs, and class ranks were introduced. Different ideas regarding the items of information to be included, how the items should be stated, and how they should be organized, has been responsible for the vast number of forms now in use. Administrators wished the reports to be complete, they desired that they be graphic, and they intended that they should be arranged in such a form that they might be made out easily by the teacher.

In trying to see that they were comprehensive, graphic, and easily filled in, the administrators have often lost sight of the fact that such reports are made out for the benefit of laymen and not for the benefit of professional educators. Often the reports have been so long that parents have not taken the time to read them, and they have been so complicated that the average parent could not understand them. Certain parents, especially those whom we are most desirous of reaching, do not understand percentages and cannot read a graph. Even the letters A, B, C, D, and E, are meaningless to many parents as scores. Schools have increased the difficulty by permitting the same symbol to represent different ratings. For instance, 95 as a per cent is not the same as 95 as an achievement quotient, or 95 as a rank in a group of 110 pupils. E means excellent on some reports, but on others it is used to designate failure. Broken-line graphs are often used, but they are seldom understood by those whom we most wish to reach.

Characteristics of Report Blank

Owing to the teacher's lack of time for visits to parents, or for the writing of personal letters, report blanks of some sort form the only means available for notifying parents as to the child's reaction to the school activities. In order to bring satisfactory results, these report blanks should contain certain characteristics.

1. A report form should be organized in such a way that the parent will feel it to be a personal communication from the teacher.

2. It should be arranged so that it may be retained permanently by the parents when they so desire.

3. It should be expressed in terms that all parents will understand and to which they will react properly.

4. Not only should failing marks be shown, but all marks that pertain to the conduct or success of the child should be pointed out in terms that will be appreciated.

5. Certain habits that affect success in school should be shown, but not in such great numbers that the individual ones will be overlooked.

6. Subject scores should show accomplishment, but effort should also be emphasized in some way.

7. Reasons for weaknesses or deficiencies should be given when known. Stating the fact that the child is below standard in a certain subject, without giving the parent any idea as

to how the condition may be corrected, is of little value.

8. Some means should be used to insure the examination of the report by at least one of the parents.

9. The parent should be encouraged to reply to the report whenever any weaknesses or failing marks are recorded.

10. The report should be so arranged that it may be filled in by the teacher with a maximum of accuracy, and a minimum of effort.

A report sheet which attempts to fulfill these requirements is here shown.

MENANDS PUBLIC SCHOOL
Menands, New York

Dear Parent:

We wish to inform you that.....
is doing "honor work" in.....
is deficient in.....
and weak in.....
In all other subjects, accomplishment is satisfactory.
Possible cause of weakness is.....
Effort is.....

We trust that you will continue to cooperate with us in the development of good study habits and that any weaknesses or deficiencies may be corrected.

Please tear off the lower portion of this sheet, and after adding any remarks or suggestions which you may desire to give, return it with your signature.

Very sincerely yours,

Home-room Teacher

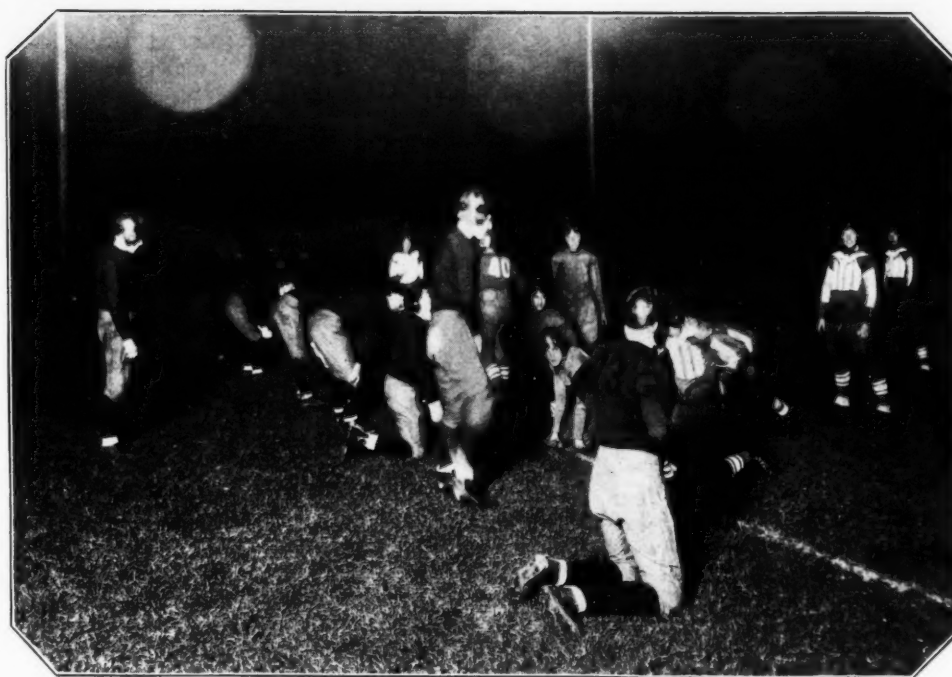
Principal

(Tear off here)

I have examined the report concerning the work done by..... as given by the Menands School under the date of.....
Remarks or suggestions:.....

Signature of Parent or Guardian

The report form given above is of letter size and should be mimeographed, multigraphed, or otherwise duplicated rather than printed, in order that it may contain as many personal characteristics as possible. The report itself is retained by the parent, but the detached portion is signed by the parent and returned to the school to show that the report has been examined. The space for remarks, or suggestions, on the detached portion encourages the parents to respond with promises, criticisms, or other remarks. Even an adverse criticism may be of value. It is certainly better to have it expressed to the teacher than passed on to the neighbors. In one school, 63 per cent of the mothers (or fathers) responded to the first report by notes, personal letters, or visits to the school. Since



THERE IS AMPLE LIGHT FOR PLAYERS AND SPECTATORS

that time, the response has averaged from 30 to 50 per cent. In most cases, promises of cooperation have been given.

Expressing the quality of the work, by word, instead of by number or letter, seems to have a good effect on the parent. A "C" score might be overlooked, but when the teacher reports that the child is "weak in arithmetic" the parent becomes interested. If the teacher reports that the child is "deficient in classroom courtesy," the parent immediately wishes to know the reason. He reads on and finds that the possible cause is "whispering while instructions are being given." In like manner the possible cause

of failure in certain subjects may be expressed as "lack of habits of concentration," "lack of home study," or "inability to grasp new work easily." Effort is the only quality that receives special emphasis.

The results have been very satisfactory during the two years in which the form has been in use. Not only is there a greater reaction on the part of the parents, but the pupils themselves seem to feel more strongly the necessity of keeping their work up to the standard. The teachers find that the sheet can be filled out as easily as the average report card, and that the returns for the time spent are much greater.

Night High-School Football

The Experience at Aurora, Ill.

The athletic authorities of East High School, Aurora, Illinois, have installed a system of night illumination for the high-school athletic field for the purpose of enabling the conduct of night football.

The scheme of lighting which was planned by experts on the subject throws daylight upon the athletic grounds. The lighting units are large

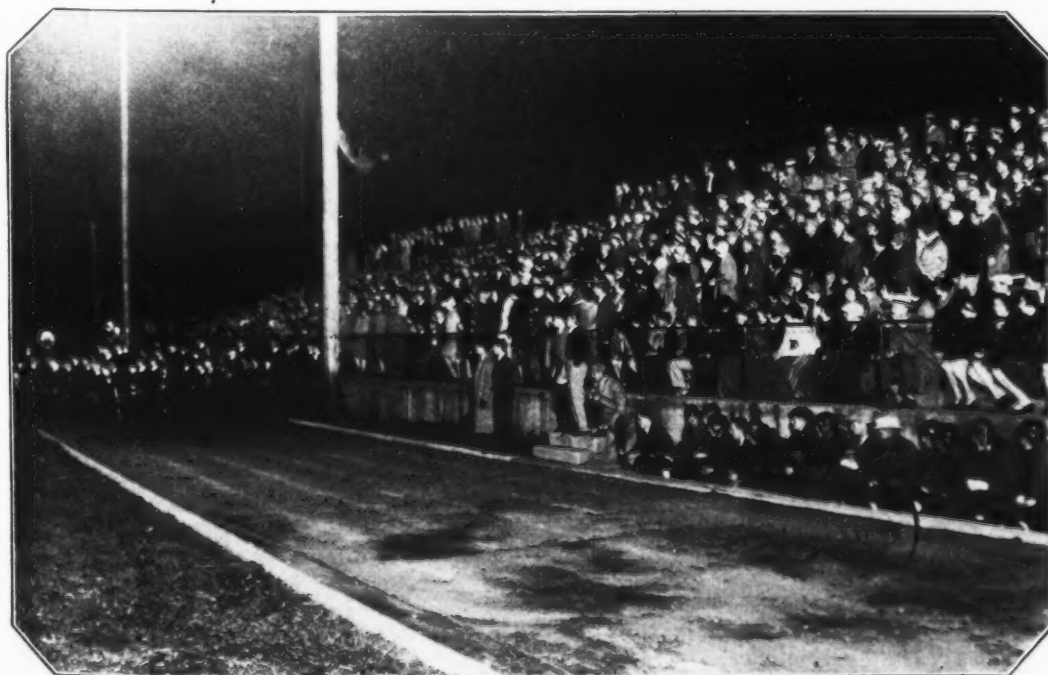
open type, wide-base reflectors with three 1,000-watt lamps in each. There are 14 of these flood lights mounted on ten 60-foot red-cedar poles; 5 on each side of the playing field and spaced uniformly 75 feet apart. These poles are set 8 feet deep in the ground so that the lights are almost 55 feet above field level. There is a total load of 48,000 watts and the intensity of illumination on the field is approximately 7½ foot candles.

The current is supplied from the transformer by a 3-phase 220-volt line, installed overhead. The conductors used throughout are 1-0 copper wire. About 1,400 pounds were required for the installation.

The equipment involves an expenditure of \$1,470 for giant reflectors, \$1,598 for installation, and \$136 for an auxiliary system, bringing the total cost to \$3,205. The cost of operation is something like \$3.84 per hour. Last year two practice sessions cost \$59.50.

The experience at East Aurora, Ill., warrants the belief that the investment for night illumination pays. On this Roy E. Davis, the athletic director, says:

"There is no question about night football stimulating attendance. If it has never been tried near your city, the novelty alone will draw large crowds for opening games. Many will be attracted who cannot come during the day and who, consequently, rarely see a football game. Our experience from all reports has been that the spectators really enjoy night football, and many go so far as to say they prefer it to daylight games. Spectators and players have concurred in the opinion that the artificial lighting



PORTION OF THE GRAND STAND AT EAST HIGH SCHOOL, AURORA, ILLINOIS

of the field was better than daylight; that visibility was excellent, and that glare was conspicuous by its absence.

In 1928 the receipts of the East Aurora high-school team, without lights, were \$880.35. In

1929, with lights, the receipts were \$4,727.20. The cost of installing the lighting system was met entirely by the athletic association. The board of education was not called upon to give financial assistance.

The Care of School Keys

The protection of property, both of the school and of teachers and pupils, is an administrative duty that does not always receive intelligent attention. In protecting school and personal property against theft and damage principals, teachers, and janitors usually accept conditions as they find them, and only some untoward occurrence which brings the matter into the glare of publicity causes them to bestir themselves to obtain more efficient locks and keys. More important than an occasional loss caused by carelessness, or an unsafe lock, is the direct and continued loss of time, and the repeated annoyance which the principal and teachers suffer from the lack of system in what may be termed *key control*.

Properly, key control of school buildings begins in the planning of the structure. The first steps must be taken by the architect whose plans and specifications must call for hardware adapted to the heavy wear and tear of daily school use. Uniformity and standardization of locks of (a) outer and inner doors, (b) of built-in cabinets and cupboards, (c) of movable furniture, and (d) of lockers are an essential requirement which the school authorities should demand of the architect. Here provisions for master keys and pass keys will be insufficient, because inevitably duplicate keys will be needed, and a central storage device, in the shape of a wall safe, a drawer compartment, or a closed wall cabinet will be required. Large cities in which school-building design has received attention from the standpoint of efficiency in administration make a key-control device an invariable part of the principal's office in large and small buildings.

The Administrative Problem

The best installation of locks and the most elaborate devices for storing duplicate keys are of no value without a clear-cut method of handling keys. Mr. A. H. Lyons, of New York City, after a three months' trip which brought him into schools from the Atlantic to the Pacific

says: "There is a general laxity, and in many instances an extreme carelessness, in protecting the keys of various buildings, rooms, students' lockers, and the like. Losses through theft are traceable to a lack of system in key control rather than to defects in locks or keys."

"It is not uncommon to note among the students, of public and private schools alike, a complete disregard for other students' belongings in the locker room. This is directly traceable to the fact that, in all such cases, there has been no provision made for the proper centralized control of the students' locker keys."

Situations like those described can be entirely avoided by a simple, but definite plan of control, which places the final authority and responsibility in the hands of the principal, with definite delegated responsibility in the hands of department heads, janitors, teachers, and other school assistants. In the larger schools, a written record of keys handed to teachers and assistants at the beginning of the school year is usually necessary. During the year, duplicates and keys for unused rooms, cupboards, lockers, etc., necessarily will be handed out from the principal's key safe, or from a locked file accessible only to himself or to an authorized assistant. At the end of the year, a method of checking in keys completes the cycle. It should be remarked that there is no hesitancy in a well-managed school in requiring payment for lost keys or replacements, no matter who may be the loser. The teacher or employee who leaves during the year will want to return his or her keys in a very definite way, if only to indicate his departure and the cessation of responsibility.

In old school buildings, it is inevitable that there is a variety of keys to be cared for. Here again, a bit of foresight and intelligent planning will reduce the routine to a minimum. The spectacle of a janitor or principal with 30 to 50 keys on a ring is not unusual, but it is none the less a sign of careless administration. A definite key-control policy involving the use of standard locks and a centralized method of control is possible in any well-managed school.

Economy and Equalization in Insurance Expenditures

J. C. Werner, Supervising Principal, Coraopolis, Pennsylvania

In 1925, the Coraopolis board of education had an appraisal made of the school district's school buildings and equipment. Before that time, estimates had been placed upon buildings and equipment, but such estimates were largely based upon the initial cost and, consequently, were much lower than they should have been. The insurance carried was based entirely upon such estimates. When the appraisal company's report was submitted, the values were found to be much higher than the amounts protected by insurance. With this information, the school board took action to increase the amount of insurance carried.

During this same year, the junior high school was completed and insurance was placed to protect this building. This added to the premiums paid during 1925-26. During the three years preceding this date, the premiums had been \$876.79, \$748.97, and \$859.07 respectively. During 1925-26, the premiums amounted to

\$2,149.73; during 1926-27 and 1927-28, the premiums were \$838.57 and \$929.29; during the 1928-29 school year, additional insurance was placed to protect an addition to a grade building, and the total premiums amounted to \$2,605.19.

Each year, an analysis of the financial report is submitted to the board, showing the total amount expended for each item of the budget, the percentage of total current expenditures, and the cost per pupil in average daily attendance. This report served to emphasize the unequal expenditures for insurance from year to year.

The Equalization of the Budget

The unequal distribution caused considerable difficulty in the preparation of the budget each year. Frequently, the largest premiums were due when other budget items likewise had reached their maximum. As a result of this situation, the

finance committee of the board began to seek a solution to the problem facing them. One suggestion was to create an insurance fund, to which the annual contribution would be equal to one third of the premiums paid over a three-year period. No action to this effect was taken and the committee continued its work.

At a subsequent meeting of the board, the committee presented another solution of the problem. In this report, the following information was submitted and a recommendation made to place all insurance on a five-year rather than on a three-year term.

Insurance Renewals		
1930-31		
Term	Amount	
2 years.....	\$16,800	
5 years.....	33,600	
5 years.....	37,600	
5 years.....	16,800	
5 years.....	15,000	
5 years.....	20,000	
		\$134,800
1931-32		
1 year.....	\$20,000	
2 years.....	40,000	
2 years.....	53,000	
2 years.....	30,000	
3 years.....	91,400	
3 years.....	31,500	
5 years.....	61,000	
5 years.....	61,200	
		\$388,100
1932-33		
5 years.....	\$20,975	
5 years.....	17,350	
5 years.....	30,900	
5 years.....	17,375	
		\$ 86,600
		Total \$614,500
The equalization of the budget is shown for the five-year period by the following:		
1932-33		
5 years.....	\$86,600	
2 years.....	16,800	
1 year.....	20,000	
		\$123,400
1933-34		
2 years.....	\$53,000	
5 years.....	40,000	
5 years.....	30,000	
		\$123,000
1934-35		
3 years.....	\$91,400	
5 years.....	31,500	
		\$122,900
1935-36		
5 years.....	\$33,600	
5 years.....	37,600	
5 years.....	16,800	
5 years.....	15,000	
5 years.....	20,000	
		\$123,000
1936-37		
5 years.....	\$61,000	
5 years.....	61,200	
		\$122,200
		Total \$614,500

When insurance is written for a three-year term, a two and one-half year rate is applied to determine the premium; thus the premium on \$614,500 for three years would amount to \$3,619.52. The premium for one year on the amount of insurance carried would be \$1,447.81.

Advantages of the Five-Year Renewal Term

When insurance is written for a five-year term, a four-year rate is applied to determine the premium. Thus, the premiums for the five-year period would be \$5,791.24. By using a three-year term for renewals, an annual saving of \$207.97 is effected over the one-year rate. By using a five-year term for renewals, an annual saving of \$289.56 was effected over the one-year rate. Thus, the net annual saving to the district through the adoption of the five-year renewal term amounted to \$81.59.

The board of education in adopting the recommendation of the finance committee, has set in operation a program of insurance renewals, which will effect a saving and will equalize the budget expenditures for insurance.

Good Will Pays in School Administration

W. W. Staver, Tenaflly, N. J.

That which should accompany old age,
As honor, love, obedience, troops of
friends,
I must not look to have; but in their
stead
Curses, not loud but deep, mouth-honor,
breath,
Which the poor heart would fain deny,
and dare not.—*Macbeth, Act V, Scene III.*

Are there any Macbeths in the teaching profession today?

There are.

There are superintendents so coldly impersonal in the administration of their schools that the real friends and loyal supporters they have among their subordinates could be numbered on the fingers of one hand—and a crippled hand at that. There are principals so dictatorial and unreasonable in the control of their buildings that their teachers almost fear to call their souls their own. There are teachers whose classroom manner is so austere and tyrannical that children in their classes have been driven into a nervous breakdown through dread of their displeasure.

Granted that all these cases are exceptional—that on the whole a spirit of good will and cheerful give-and-take pervades most of our schools—there can be no question that the morale is low, the endeavor slight, the performance feeble, in some schools and school systems chiefly because of the lack of kindly feeling and friendly coöperation.

In the truly successful administration of schools the spirit of good will must be manifest in at least eight different places: in the community's attitude toward the schools as a whole; between board and superintendent; between the board and the teaching corps; between the superintendent and his teachers; between supervisors and teachers; among the different schools of the system; among the teachers of each individual school; and between each individual teacher and her pupils.

The Superintendent's New Prestige

The rise in authority and prestige which the past three decades have seen accorded the position of superintendent of schools is gratifying, indeed. It is a far cry from the "What the hell have you got to say about it?" which a certain board member in a certain good-size town shot at the superintendent a few years ago, to the status which the superintendency occupies today in most progressive communities—in the very town spoken of, in fact. But all of us in schoolwork know of places where the schools would do much more effective work if there were a better feeling and a more sympathetic understanding between the superintendent and his board.

Numberless causes exist to bring about this unfortunate situation, but the burden of responsibility must be placed, it must be acknowledged, on the shoulders of the superintendent himself.

There is probably in organized society today no other position in which so much tact and common sense must be employed as in the superintendency of schools. Its occupant must be a twofold buffer—between the board and the teaching staff, and between the board and the public. The teachers feel aggrieved at some regulation of the board, and the superintendent must smoothe over the difficulty. An angry parent rushes to a board member with a complaint, and it is again the superintendent who must bear the brunt of the battle.

In the groups of varying size which compose boards of education, there must inevitably be one or more members to whom the superintendent

is distasteful or who are personally distasteful to the superintendent. But the successful superintendent must be canny enough to overcome his personal prejudices and dislikes, or at least to thoroughly conceal them. He must be willing to give as well as take, to sacrifice his personal wishes for the good of the school, to wait patiently and labor persistently till the opportune time arrives for the promulgation of policies which he knows will not meet with the approval of this or that member of his board. And if he finds himself in a hopeless situation—if there are too many points of difference—he should, for the good of himself and the welfare of the children, leave the task for another to do and seek pastures new. No schools can produce the results which they should, if there is constant bickering and quarreling between the superintendent and his board.

The Board and the Teachers

Then there must be good will directly and indirectly between the board and the teachers they employ. In most places the relations between the two groups are entirely too remote. It is true that some teachers resent the visitation of board members, but the gains accruing from such a personal interest on the part of board members in the work of the schools generally more than offset the danger of harmful interference.

In some places the plan has been adopted of having the board give a reception of some sort to the members of the teaching staff for the purpose of promoting mutual acquaintance. The chief value of such an acquaintanceship lies in the fact that it helps to eliminate the apparent disposition on the part of the members of some boards to "ride" the teacher when anything goes wrong. If such members only could realize what a difference this attitude makes in the morale of their teaching force there would surely be a change. If the teachers could be confident of loyal support and an unbiased hearing, many a backbone would be stiffened toward problems of discipline, while many a wearied classroom utterance would take on a happier and more resolute tone.

The next place where good will is essential is a most important one; that is, in the relations between the superintendent and the teaching corps. It has been said that most institutions are but the lengthened shadow of some individual. Even with huge school systems this may be the case, as has been evidenced in the past by Snyder in Jersey City, by Maxwell in New York, by Kendall in the State of New Jersey, and by Soldau and Withers in St. Louis. It gives one a thrill to know that one is working under the leadership of such a man, even though one may not know him personally.

The Teachers' Loyalty

Nowhere in the vast scheme of things, from the little two-room school with its "head teacher" to the huge city system with its thousands of employees, is it more essential to have good will and respect and loyalty than in the relations between the superintendent and the teaching staff. If the rank and file can repose confidence in their leader's fairness, if they can trust his good judgment, if they can rely on his kindness and humanity, they will go through fire and water for him. And in their loyalty and cheerful backing they will work more faithfully and efficiently than they would ever work under any scheme of rating or plan of organization that does not have a human being at its heart. So much for the superintendent.

The relations between the supervisors and teachers, while not so important in a large way,

may be productive of harm in small ways. Here if anywhere is tact a prime necessity. What there is about their training which leads so many special teachers and supervisors to consider their field as sacrosanct and to assume the holier-than-thou attitude so common among them is more than ordinary human intelligence can grasp. And how ready are the rank and file to meet the challenge! And how easy it is sometimes to round off the sharp corners on which these good folk bump and bruise their sensibilities!

Difficulties of Supervisors

For example, I know a thoroughly competent music supervisor who always insisted upon her right, under the regulations of the board, to ask the teachers to occasionally teach a lesson for her observation. A number of complications developed every year, without any apparent advantages accruing from the practice. Finally her principal talked with the supervisor thus: "There are just two things I want you to do this term. First, I want you not to ask a single teacher to teach a lesson for you. Second, I want you yourself to make music so delightful to the youngsters that their eyes will shine when you come into their room." The results showed themselves in the fact that two different teachers, who were formerly hostile to and critical of this supervisor, informed the principal that they didn't know what had happened, but that they were getting results in music which they had never dreamed of before.

Jealousy is innate in most of us, and the superior attitude which many supervisors take is productive of an indifference on the part of the classroom teacher toward her work which cannot but result in mediocre performance. The wise superintendent will take care to secure accord and coöperation between his supervisors and those with whom they work.

But how about the relations among the different schools of a community? Does it matter whether the pupils and teachers of School No. 9 feel friendly and cordial toward the folks in School No. 10. It most certainly does. I know of a system in which a certain school assumed a superior attitude toward the rest of the city, and it is almost unbelievable what damage this attitude caused to the morale of the whole system. Even in such a matter as interschool athletics it was discovered that two of the other schools had come to a secret agreement as to entries of contestants in order to prevent the "superior" school from winning the first place. These petty jealousies and heartburnings affected the children, of course, even more than the teachers, with the result that unpleasant notoriety was attached to pupil rivalries that otherwise would have gone unnoticed. Here, again, in the promotion of good will and mutual respect among his various schools, is another job for that paragon of all virtues and embodiment of all wisdom, the superintendent.

The Principal's Reputation

Good will among the teachers of the individual school is largely dependent upon its principal. A busybody and gossip in the office can soon undo and destroy the patient work of long years. It is interesting to hear the comments of supervisors and substitutes regarding the different schools in which they work. "Oh, Mr. Doe," says a substitute teacher to the superintendent, "Will you give me all the work you can in School No. 11? There is such a fine spirit in it that I just love to teach there." And not the least interesting part of the story is that most excellent work is done in School No. 11, too.

Thoughtfulness and consideration are the keynote in such a school. For instance, one of the corps has had a nervous breakdown and has taken leave of absence for a long period. At Christmas time someone (it ought to be the principal) suggests that every teacher of the fifty or more employed there shall send Miss Roe a Christmas card. Is it any wonder that Miss Roe weeps a bit when she tells about it, and that when she returns to duty she will work her little head off for anything that goes on in that school, in the curriculum or out of it?

It is no easy task to preserve harmony and good feeling among a dozen or thirty or fifty women engaged in the most nerve-racking work in the world. But the far-sighted principal will see it as one of his chief tasks and will devote himself assiduously to keeping the wheels running smoothly with the lubricant of good will.

Good Will Toward Pupils

Last of all there is the matter of good will between the individual teacher and her pupils. It is surprising how many shrews and termites infest the teaching profession even today. I have sometimes wished that the old-time ducking stool might be brought out of limbo. I know schools in which candidates for its reformative influence might easily be found. I knew one principal who was compelled to organize a "fishwives' chorus" before he finally quelled the strident scolding and raucous browbeating of one or two of his teachers.

This does not mean an advocacy of sugar-coated control. Personally, I am even so old-fashioned as to think that corporal punishment is an occasional necessity with some children. But while I would have nothing namby-pamby in the way of discipline, my heart aches when I see troops of little folks sitting in fear and dread of an angry teacher. And almost as bad is the cold, formal disciplinarian whose charges sit with hands meekly folded on the desk before them—or, worse still, held behind their patient little backs—for seeming eons upon eons of time because the class did not rise promptly or because pudgy little fingers dropped a ruler at the wrong moment.

And what a joy it is to look at the other side of the picture! To go into a real workshop, where everyone is busily engaged at his task, the quiet-voiced teacher ("Her voice was ever soft, gentle and low—an excellent thing in woman") moving about among the workers, with now and then some little chap coming up, his eyes alight with the joy of achievement, to show her what he has done!

The longer I live and the wider acquaintance I have with things and people educational, the deeper and firmer becomes my conviction that the most important phase of the whole question is involved in the personal relation—in the personal impress that is made—in good will.

Good Will as an Essential

The mere perfunctory performance of tasks leads nowhere and gets nothing. The work done by pupils under the compulsion of fear is effort wasted. The mechanical accomplishment by teachers of appointed requirements explodes but few brain cells in the mental equipment of their charges and sets no moral or spiritual electrons whirling in their souls. The graceful graphs and voluminous statistics of a superintending machine may look well on paper and beat rich and full upon the listening ear, but they will not of themselves produce manhood and womanhood.

But if our children can work in an atmosphere of happiness and good cheer; if our teachers can face their tasks secure in the knowledge of personal approval for well-won success; if the superintendent can meet his problems in the consciousness that he has the loyal support and interested cooperation of his board; if there can be seen and heard and felt all through the sys-

tem a spirit of good fellowship and friendly give-and-take, we may rest assured that in such schools there will be a high standard of achievement and that they will enjoy what it is the right and privilege of every good man and every good work to enjoy—the esteem and good will of the community.

SCHOOL COSTS REFLECTED UPON THE HOME

The question occasionally arises as to whether the school authorities are always sufficiently considerate in dealing with school costs which must be met by the home. The complaint against the cost of schoolbooks is proverbial, and rarely justified. But, there are other items aside from textbooks which enter into the school expense that must be borne by the parents.

The state educational department of Indiana in a recent bulletin points out that unnecessary expense might be eliminated by the exercise of a little practical thrift. It says: "One source of irritation can be illustrated by the following examples of actual school practice. (1) A child in the upper grades had a small set of water colors carried over from the artwork of the past year. The special teacher of art refused to let the child use the set of colors at hand and ordered the purchase of a new set at a cost of 50 cents. The new set was used only once during the entire school year. (2) A child had adequate and proper clothing for physical training needs but the instructor measured the child and ordered a new outfit to fit the instructor's desire for a certain style, color, and material. The cost was approximately \$3. The family did not have much surplus money, but had to make the pur-

chase. The outfit could not be used the second year.

"Schools need, in some instances, to practice as well as teach thrift and to cease burdening parents unable to spend except for the purchase of absolute necessities. The elimination of varied assortments of paper, separate loose-leaf covers for different sets of notes, use of but one side of the paper for informal work, etc., are instances of possibilities for the reduction of the home costs of schools. Teachers are prone to forget that associate teachers are likewise making demands on the home purse. Administrators, with close scrutiny, can save parents money without handicapping the schoolwork of the teacher or the children."

The caution here offered is both timely and to the point, and should find acceptance in all school circles.

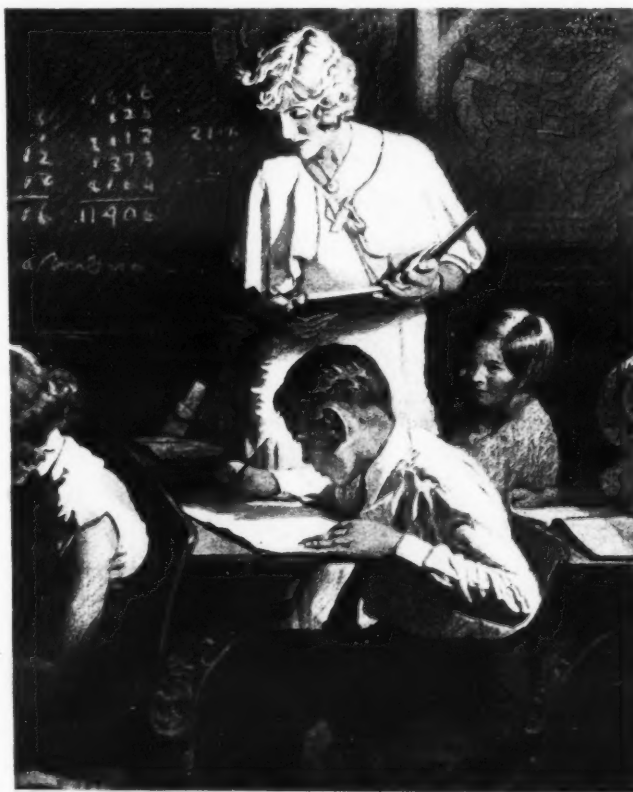
DEPARTMENT OF SUPERINTENDENCE TO MEET AT DETROIT

The sixty-first annual convention of the Department of Superintendence of the National Education Association will be held February 22-26, in Detroit, Mich. Supt. Norman R. Crozier, of Dallas, Tex., president of the Department, has selected for his program theme "Working Together for the Children of America." A number of prominent educators have been invited to address the sessions.

The general sessions will be held in the Detroit Masonic Temple, which is ample in size, comfortably furnished, and conveniently located. The exhibits will be housed in the same building.

Information concerning the meeting and hotel reservations, may be obtained from Mr. Paul T. Rankin, chairman of the hotel committee, 1805 Stroh Building, Detroit, Mich.

SCHOOL BEGINS TODAY!



TO TEACHERS: A TRIBUTE

AMONG the constructive influences of life a high rank must be assigned to teachers. Theirs is a work of fundamental and far-reaching importance for which there can be no substitute. Each new generation must pass through their hands, there to receive an impress destined to endure.

Every successful life owes much to the teachers of its youth; and both mediocrity and failure may look back upon neglected opportunities which teachers strove in vain to make clear. Achievement in life, in all its conspicuous forms, must ever pay tribute to the teachers who early guided the mind toward a realization of its capacities.

With increasing confidence parents have given to teachers more and more responsibility for the training of children; and both the family and the community look to the teachers in our various educational institutions to uphold our standards of culture and intellectual attainment.

Surely the calling of the teacher should ever be characterized by dignity and importance. And surely the lives of teachers must be greatly enriched by the satisfaction of giving a pitiless service, and by the enduring affection and esteem of those whom they have directly benefited.

Published by Marshall Field & Company on the opening day of school, September 1, 1928

A GRACEFUL TRIBUTE

On the opening day of school in September the Chicago newspapers carried a full-page advertisement of Marshall Field and Company as illustrated above. It was interesting to note that at least one of the newspapers contained a cartoon which rather weakly attempted to joke about teachers and the opening of the school year.

The Business Administration of City School Systems as Shown by Rules and Regulations

G. E. Van Dyke

About 35 years ago a subcommittee of the Committee of Fifteen on Elementary-School Education made the following statement: "The circumstances of the case naturally and quickly separate the duties of administration into two great compartments, one which manages the business affairs, and the other which supervises the instruction. The business affairs of the school system may be transacted by any citizen of common honesty, correct purposes, and good business experience and sagacity. The instruction will be ineffective and abnormally expensive unless put upon a scientific educational basis and supervised by competent educational experts."

Since the time of this statement public schools have grown in both the numbers of pupils enrolled and in the scope of responsibilities and duties assumed to an extent undreamed of, probably, by those making the statement. This large development has caused all phases of public-school administration to expand to such degrees that the effective and efficient superintendent of schools in a system of any size is, at the present time, an executive officer directing and controlling a corps of subordinate officers, each responsible to him for the supervision of one particular field of the management of the schools.

One of the phases of school management that has shown an especially large development in the past few years is that of the management of business affairs. This field of school administration has grown, not only in numbers of duties assumed, but also in specialized skills, knowledges, and abilities that must be had by anyone assuming its supervision. The increasing number of specially trained and experienced officers found in the administrative organizations of public-school systems offers proof of this statement. Business managers, purchasing agents, auditors, accountants, superintendents of buildings and grounds, and assistant superintendents in charge of business affairs are being found more and more frequently in well-organized, efficient public-school systems.

The development of specialized knowledge and technical information in this field is shown by the reports of the National Association of Public-School Business Officials and by the large number of very valuable studies and investigations that have been made dealing with the problems of the business administration of public schools. The writings of Engelhart and Engelhart, Reeves, Womrath, Olsen, J. C. Morrison, Deffenbaugh, Ganders, Heer, Reeder, Smith, and Theisen are outstanding and show clearly that any citizen with no other characteristics than "common honesty, correct purposes, and good business experience and sagacity," regardless of the unquestioned value of these commendable attributes, would find the efficient supervision of the business affairs of a large-city school system a very difficult task.

Purpose of This Study

It is the purpose of the investigation here reported to study the administrative organizations for handling the business affairs in public schools as shown by an analysis of the printed rules and regulations of boards of education. The investigations of the writers referred to above nearly always have dealt with the entire administrative organization of the school system. The present investigation, however, deals only with organizations set up for the administration of business affairs. Provisions for the administration of such duties as supervision of instruction, grading and testing pupils, personnel work among teachers and pupils, and other

instructional duties have been omitted. The present investigation attempts to present the status of the *business* administration of public schools as distinguished from the *instructional* administration.

This investigation differs, also, from those referred to in regard to the source of data. Some of the writers mentioned above secured their data through the use of questionnaires asking for descriptions of the administrative organizations of the schools; some made personal visits to schools to secure this information; some examined the minutes and proceedings of boards of education; while a few supplemented these sources of information by examining the rules and regulations of various school boards. Data for the present investigation were secured from rules and regulations only. The present writer wished to determine how these printed documents are functioning at the present time in the administration of the business affairs of public-school systems.

The Role of Rules

E. C. Melby and J. C. Morrison, both, have stated in excellent manner in former issues of the *SCHOOL BOARD JOURNAL* the important rôle that rules and regulations play in effective and efficient administration of schools. The former writer has shown clearly that, as it is impossible for a superintendent to personally administer all the activities of the modern school system, the work must be delegated to others. He says: "Written rules and regulations must, therefore, be prepared, controlling the behavior of the administrative staff. . . . When rules, regulations, and written instructions have been prepared and placed into operation, they become one of the more important controls in the school system."¹

Morrison discusses very sanely a number of objections that superintendents offered him against the use of printed rules and regulations. In these discussions the following points are well worth repeating: . . . "boards-of-education membership is changing annually, and any oral understanding is all the more valuable when reduced to writing so that both parties have a record to protect themselves against lapse of memory or change of mind.

"Men usually think more clearly and deeply when they attempt to reduce their agreements to writing, . . . and through the drafting of a set of rules and the resultant discussion, the superintendent has the best possible opportunity of reaching a thorough understanding with his board as to the procedure that should be followed by all concerned with the administration of the schools."²

How Important are Rules?

In business and industrial management it is an unquestioned fact that the best form of management is that in which one executive is held responsible for the administration of the entire business enterprise. The board of directors grants authority and responsibility to the chief executive, and he in turn delegates authority and responsibility to a group of subordinate officers who are responsible to him for the supervision of special phases of the business. However, it is necessary to exercise some form of control over both the chief executive and the subordinate officers to see that their actions and

practices are effective and in harmony with the general policies of the company. One of the methods — and one considered to be the most effective method — employed by business concerns for exercising this control function is through the use of printed rules, regulations, and instructions. Although the present writer is aware of the dangers of attempting to bring business and industrial practices in a wholesale manner into school administration, it seems that a device as effective as this one would prove of value in the administrations of schools, especially in the administration of the business affairs.

A justifiable objection may be raised, however, to the use of rules and regulations as a source of information on administrative practices. These documents may not describe accurately the practices in use. The actual organization of the schools included in this study may be quite different from that described in the printed documents examined. However, if printed rules and regulations are provided in school systems, and if these documents contain statements concerning the manner in which the business affairs of the schools are to be administered, in view of the important place these rules hold in school administration, one should expect these documents to be well written, accurate, effective, and respected. They should serve as the statement of what constitutes, to the members of the boards of education and to the superintendents, the best form of school administration, and they should be the description of the manner in which these officers want the business affairs of their schools to be administered. That these statements may be ambiguous, and that the actual business practices may ignore the provisions of the rules and regulations are, in this writer's opinion, evidences of weak administrative organization and executive practice, rather than reasons for an apology for the source of information for this study.

Rules and regulations of school boards were used, therefore, to see to what extent good business methods and practices are being provided by boards of education in the administration of the business affairs of their schools, and also, to see what is the nature of the business administration that is provided by rules and regulations.

Source of Data

Over 200 sets of rules and regulations of school boards available at the University of Chicago were examined. Most of them were complete, that is, they covered all phases of school administration, although some dealt only with the duties of teachers, supervisors, janitors, pupils, etc. A total of 188 complete sets were finally selected for analysis. The cities from which these rules and regulations were taken varied in size from under 5,000 to over 100,000 population. Table I shows the distribution of the cities according to the population in 1920.

TABLE I Cities Classified by Population in 1920		
Population	Cities	Per Cent
Under 5,000	12	6.4
5,000 to 9,999	30	16.0
10,000 to 29,999	64	34.0
30,000 to 99,999	62	33.0
Over 100,000	20	10.6
Total	188	100.0

Of the cities studied, 32 per cent were in the Central states, 31 per cent in New England, 18 per cent in Atlantic Coast, 10 per cent in Southern, and 9 per cent in Western states.

The date of publication of the rules and regulations is especially important in determining the significance of the data. Fifteen sets bore no date of publication, while the others ranged

¹Ernest C. Melby, "Rules, Regulations, and Written Instructions as Administrative Controls," *SCHOOL BOARD JOURNAL*, LXXIV (May, 1927), p. 45.

²J. C. Morrison, "The Value of Carefully Defined Rules and Regulations Covering the Work of the School Board and Superintendent," *SCHOOL BOARD JOURNAL*, LXXII (February, 1926), p. 38.

from 1899 to 1930. Ninety-two sets, or nearly 50 per cent, were published in the 4 years 1926, 1927, 1928, and 1929; and 156, or over 80 per cent, were published in 1921 or later. Table II shows the distribution of the rules and regulations by year of publication.

Procedure of the Study

The 188 sets of rules and regulations were analyzed to determine, first, what business affairs were dealt with. After all the documents were examined it was found that 49 specific business duties were mentioned. These 49 duties, because of their obvious relations, were grouped into five general classes as follows: (1) General managerial duties, (2) personnel duties, (3) duties concerned with the purchase, storage, and distribution of supplies and materials, (4) financial duties, and (5) duties concerned with the buildings and grounds.

TABLE II
Date of Publication of Rules and Regulations

Date	Number of Rules and Regulations	Per Cent
1928	29	15.3
1927	27	14.3
1929	19	10.0
1926	17	9.1
1925	15	7.9
1923	14	7.3
1921	11	5.6
1924	10	5.2
1922	10	5.2
1930	4	2.2
1920	4	2.2
1919	3	2.0
1918	3	2.0
1912	3	2.0
1909	2	1.0
1917	1	0.4
1899	1	0.4
No Date.....	15	7.9
Total	188	100.0

The Responsible Officers

The second step was to determine who the officers were that were held responsible for the administration of these 49 duties. A great variety of names of officers and committees was found in this analysis; however, 12 names of officers and 5 names of committees were found more often than any others, and by examining the duties of each officer and committee mentioned in all the rules and regulations it was found that practically all the various titles of officers and committees could be classified under these 12 officers and 5 committees. In a few cases a committee of the whole was mentioned as having responsibility for certain duties. This title, therefore, was included in the list of officers and standing committees responsible for the administration of the business duties in the 188 school systems included in this study. The following list presents the names of the 12 officers and the 6 standing committees most frequently mentioned.

Officers

Superintendent
Clerk
Secretary
Treasurer
Auditor
Superintendent of Buildings and Grounds
Chief Engineer
Head Janitor
Purchasing Agent
Business Manager
Attorney
Principal

Standing Committees

Committee of the Whole
Finance Committee
Committee on Purchases and Supplies
Buildings and Grounds Committee
Committee on Sanitation and Janitors
Education Committee

After all the specific business duties that were mentioned in the rules and regulations were listed, and after all the various officers and committees responsible for the administration of these duties were determined, the third step in

TABLE III
Forty-Nine Specific Business Duties Mentioned in Rules and Regulations of 188 City School Systems, and Number and Per Cent of Systems Mentioning Each Duty

Duty	Number	Per Cent
<i>General Managerial Duties</i>		
Perform duties of general business executive	92	48.9
Serve as custodian of school property	70	37.2
Perform general secretarial duties ..	14	7.4
Serve as secretary to the board of education	8	4.3
Have custody of board's valuable papers, records, books, seal, etc.	33	17.6
Have responsibility for taking school census	22	11.7
Perform legal duties, and give legal advice	9	3.8
Have responsibility for the transportation of pupils	4	2.1
<i>Personnel Duties</i>		
Recommend the appointment, transfer, and discharge of all business employees	90	47.9
Employ, transfer, and discharge all business employees without recommendation	29	15.4
Temporarily appoint, transfer, and discharge all business employees ..	6	3.2
Supervise and direct the work of the business employees	125	66.5
<i>Supplies and Materials Duties</i>		
Recommend the selection or purchase of all supplies and materials	25	13.3
Purchase all supplies and materials ..	156	83.0
Make minor purchases	10	5.3
Purchase special supplies, such as janitors' supplies, business office supplies, etc.	16	8.5
Purchase furniture and apparatus ..	10	5.3
Purchase fuel	32	17.0
Secure printing and all printed forms	16	8.5
Store and distribute supplies	57	30.3
Prepare an inventory of supplies ..	19	10.0
<i>Financial Duties</i>		
General responsibility for financial duties, and furnish advice on financial problems	53	28.2
General supervision of the expenditures of money	30	16.0
Keep financial records and accounts ..	108	57.4
Make financial reports	103	54.8
Audit financial records and books ..	47	25.0
Prepare the budget	80	42.6
Furnish data for the preparation of the budget	39	20.7
Prepare and present bills to the board for payment	10	5.3
Approve or certify all bills	134	71.3
Approve or certify bills for special purchases	38	20.2
Prepare payrolls	54	28.7
Approve or certify payrolls	50	26.6
Draw, or countersign, warrants and orders on the treasurer	49	26.1
Perform the duties connected with paying bills	7	3.7
Keep records of insurance, and have responsibility for placing insurance	48	25.5
Collect all money due the school system	8	4.2
Collect incidental fees, such as tuition charges, laboratory fees, receipts from book sales, etc.	23	12.2
<i>Buildings and Grounds Duties</i>		
General supervision of buildings and grounds duties, and furnish advice on these duties	68	36.2
Inspect buildings and grounds	79	42.0
Recommend and furnish advice on needed new sites and new buildings	26	13.8
Supervise and inspect the work of new construction	50	26.6
Recommend and furnish advice on needed repairs and alterations	92	48.9
Perform the work of repairs and alterations	18	9.6
Supervise and inspect the work of repairs and alterations	128	68.1
Supervise the cleaning and sanitation of the buildings and grounds	46	24.5
Have responsibility for the care, repair, and upkeep of all mechanical apparatus and equipment	19	10.0
Supervise the heating, ventilation, lighting, plumbing, etc.	25	13.3
Prepare an inventory of furniture and equipment	22	11.7

the analysis was to determine the business agent, that is, the officer or committee, most frequently held responsible for the administration of each duty, and also the duties each agent was most frequently held responsible for administering.

To carry out this analysis a master chart was devised on which was recorded the frequency with which each individual officer and committee was held responsible for the performance of each specific duty. This master chart showed the number of business duties each officer and committee was responsible for administering, and also, the officers that were held responsible by the rules and regulations for the administration of each duty.

Results of the Analyses

Table III presents a list of the 49 specific business duties grouped under the five main divisions as discussed in the foregoing. The table shows, also, the number and per cent of rules and regulations mentioning each duty.

A great lack of uniformity is seen in the business duties with which rules and regulations deal. The size of the school system will exert a strong influence on determining the duties that are important enough to be included in rules and regulations. However, despite this fact, it is surprising to see that only 6 of the 49 duties were mentioned in at least half of the systems studied, while 3 others were mentioned in nearly half.

The Most Important Duties

The duty "Purchase all supplies and materials" was mentioned in 83 per cent of all the rules and regulations examined, and the duty "Approve and certify all bills" was mentioned in 71.3 per cent. It is probably encouraging to see that the business duties concerned with the acquiring of, and paying for, educational supplies and materials are the two duties mentioned in rules and regulations more frequently than any other business functions; but it is very interesting to see that even these important duties are not mentioned in a large number of school systems.

Keeping the school buildings and grounds in good repair, and making them better adapted to meet the educational needs of the school system are business functions that also are considered of importance, for the duty "Supervise and inspect the work of repairs and alterations" was mentioned in 68.1 per cent of the 188 sets of rules and regulations, while the duty, "Recommend, and furnish advice on, needed repairs and alterations" was mentioned in 48.9 per cent. The other duties that were mentioned by practically 50 per cent of the schools are, in the order of their frequency, "Supervise and direct the work of the business employees," "Keep financial records and accounts," "Make financial reports," "Perform the duties of a general business executive," and "Recommend the appointment, transfer, and discharge of all business employees."

The remaining 40 duties were mentioned in less than half of the sets of rules and regulations examined. The question might be asked, "How are important business duties administered when the rules and regulations fail to provide for their supervision?" For example, who supervises the school census in the 166 systems where the rules and regulations have failed to provide for the administration of this important duty? Who appoints employees temporarily in emergency cases in the 128 systems where no provision for such action has been made in their rules and regulations? Who purchases the furniture and apparatus in the 178 systems; who recommends the selection of supplies and materials in the 163 systems; who prepares and approves the payrolls in the 134 systems; who prepares and pays the bills in the 178 systems; and who is responsible for the sanitary conditions in the 142 systems where these duties

(Concluded on Page 123)



SENIOR HIGH SCHOOL, MATTOON, ILLINOIS
F. E. Berger and R. L. Kelley, Architects, Champaign, Illinois

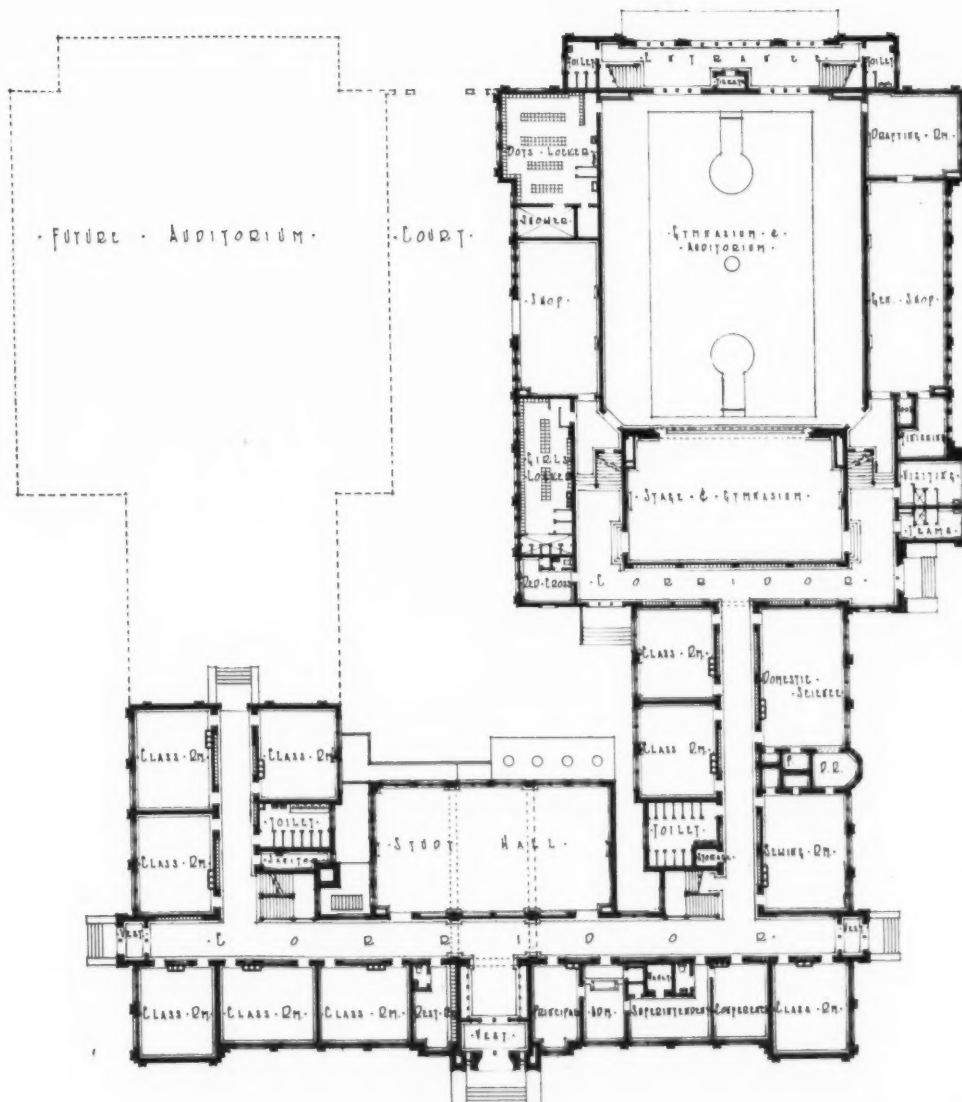
The Mattoon Senior High School

Mattoon is a city of about 17,000 population, located in the center of a rich agricultural and industrial section of the State of Illinois. Like many other communities which have had the welfare of the entire school system at heart, Mattoon some ten years ago began to improve its school plant by rebuilding the elementary schools, before attempting the project of a senior high school. Everything in the elementary and junior high schools is modern and entirely up to the official standards set by the State of Illinois.

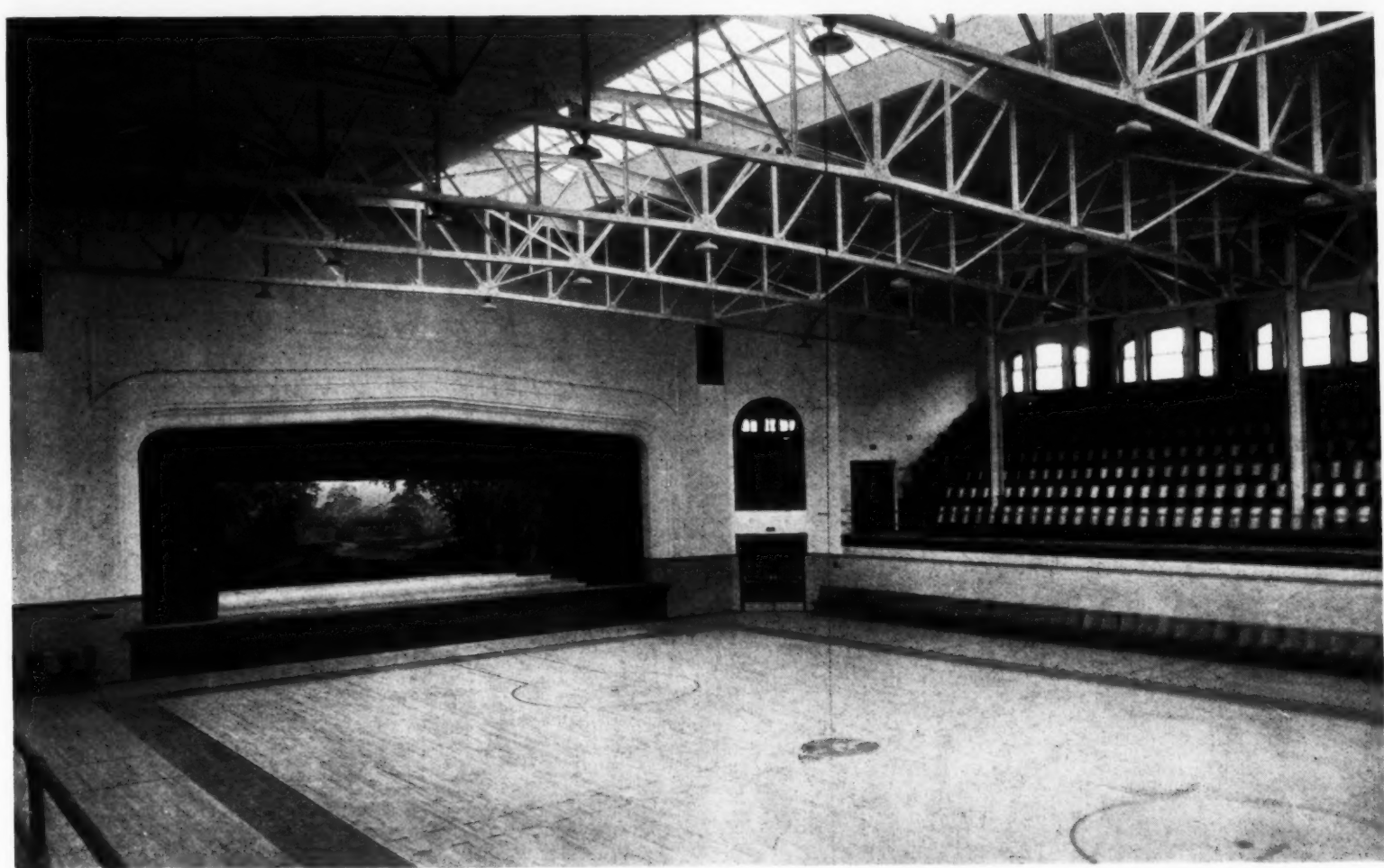
When an unexpected loophole in the state law made it possible for a brief time to double the bonding power of school districts, Mattoon made use of its opportunity and obtained permission by a referendum vote to issue bonds for a high school.

The architects, Messrs. Berger & Kelley, were chosen by the board of education, upon the recommendation of its building committee which had inquired into the experience and fitness of a considerable list of available architectural firms. The basic studies for the planning of the building were prepared by the superintendent of schools, Mr. H. E. Black, and the architects worked in close harmony with the superintendent and other school authorities of the city, to develop a building which might meet in the best possible way the present and the future educational program of the community.

The building is a two-story structure without basement, and is arranged to include ultimately three main units. At present, two units have been erected. These are the academic or classroom unit, and the physical education and shop unit. The former consists entirely of classrooms, study halls, laboratories, a library, and two study halls. The physical- and vocational-education unit includes the shops, workrooms, and the auditorium-gymnasium. The third unit will include the auditorium and additional classrooms, and is planned to balance the present gymnasium-shop wing.



FIRST FLOOR PLAN, SENIOR HIGH SCHOOL, MATTOON, ILLINOIS
F. E. Berger and R. L. Kelley, Architects, Champaign, Illinois



GYMNASIUM-AUDITORIUM, SENIOR HIGH SCHOOL, MATTOON, ILLINOIS
F. E. Berger and R. L. Kelley, Architects, Champaign, Illinois

The study halls are located in the center of the academic unit and face the well-lighted interior court, from which street noises and other distractions are eliminated.

The library occupies the space in the middle front of the second floor, immediately above the front entrance of the building, and is one of the best-arranged school libraries in Illinois. It has seating accommodations for 80 pupils at

one time, and the shelf space is adequate for 10,000 books.

The academic unit contains, on the first floor, nine standard classrooms, an administrative suite for the principal and the superintendent of schools, a conference room which serves as a board-of-education room, and a suite of rooms for the household-arts department.

On the second floor there are nine classrooms,

a suite for the commercial department, and two laboratories.

The arrangement of the academic rooms is such that practically all of the classrooms face east or west. The laboratories face south.

The shop-gymnasium wing has been carefully arranged for the greatest possible economy of space. On the first floor there are shops, a classroom, and the necessary accessories of the gymnasium. On the second floor there are additional rooms and balconies for 2,400 visitors. The stage is arranged to serve as a girls' gymnasium and may be used for various athletic and school exhibitions.

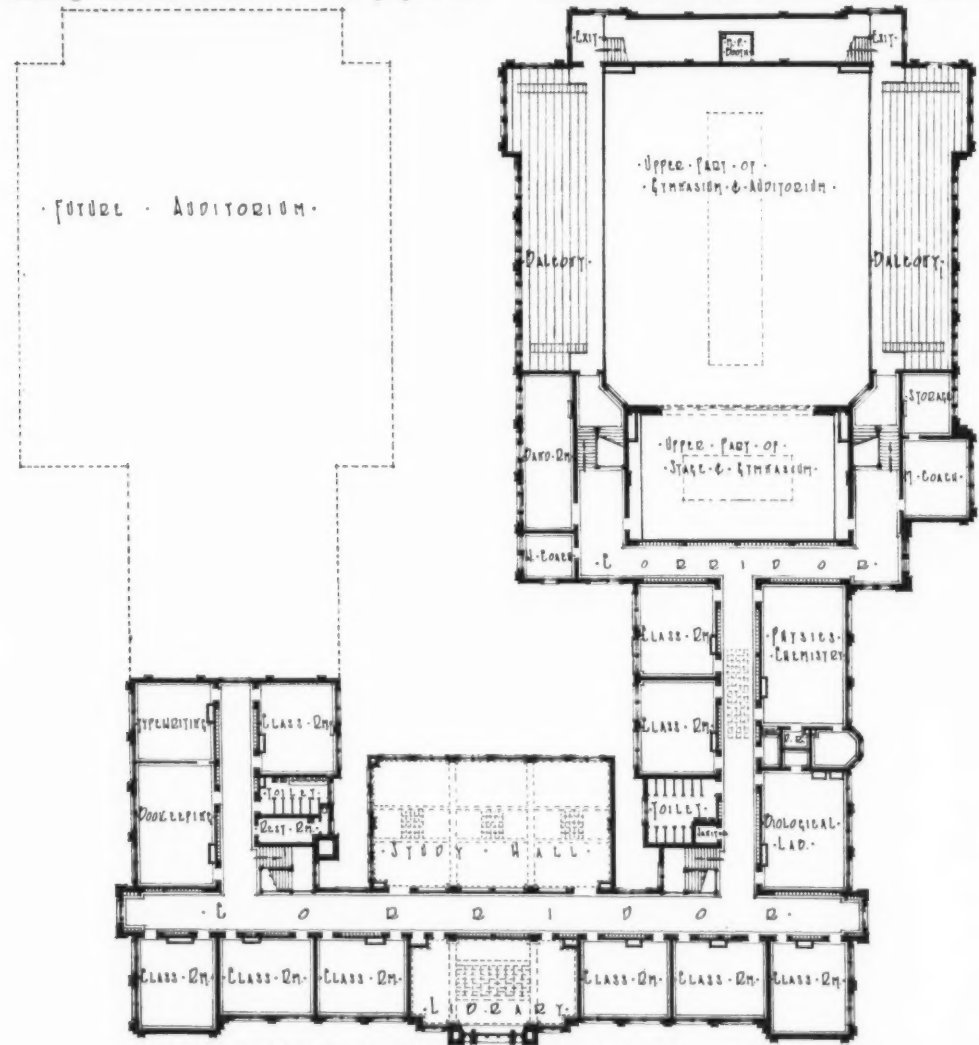
The gymnasium has an outside entrance and is planned for use as a community center. The room is treated with acoustical tile for controlling the sound.

The building is of the slow-burning type of construction. The footings are concrete, and the walls are of brick and tile throughout. The stairways and the corridors are of concrete, and the heating plant is shut off from the main building by concrete walls and ceiling, and fire-proof doors.

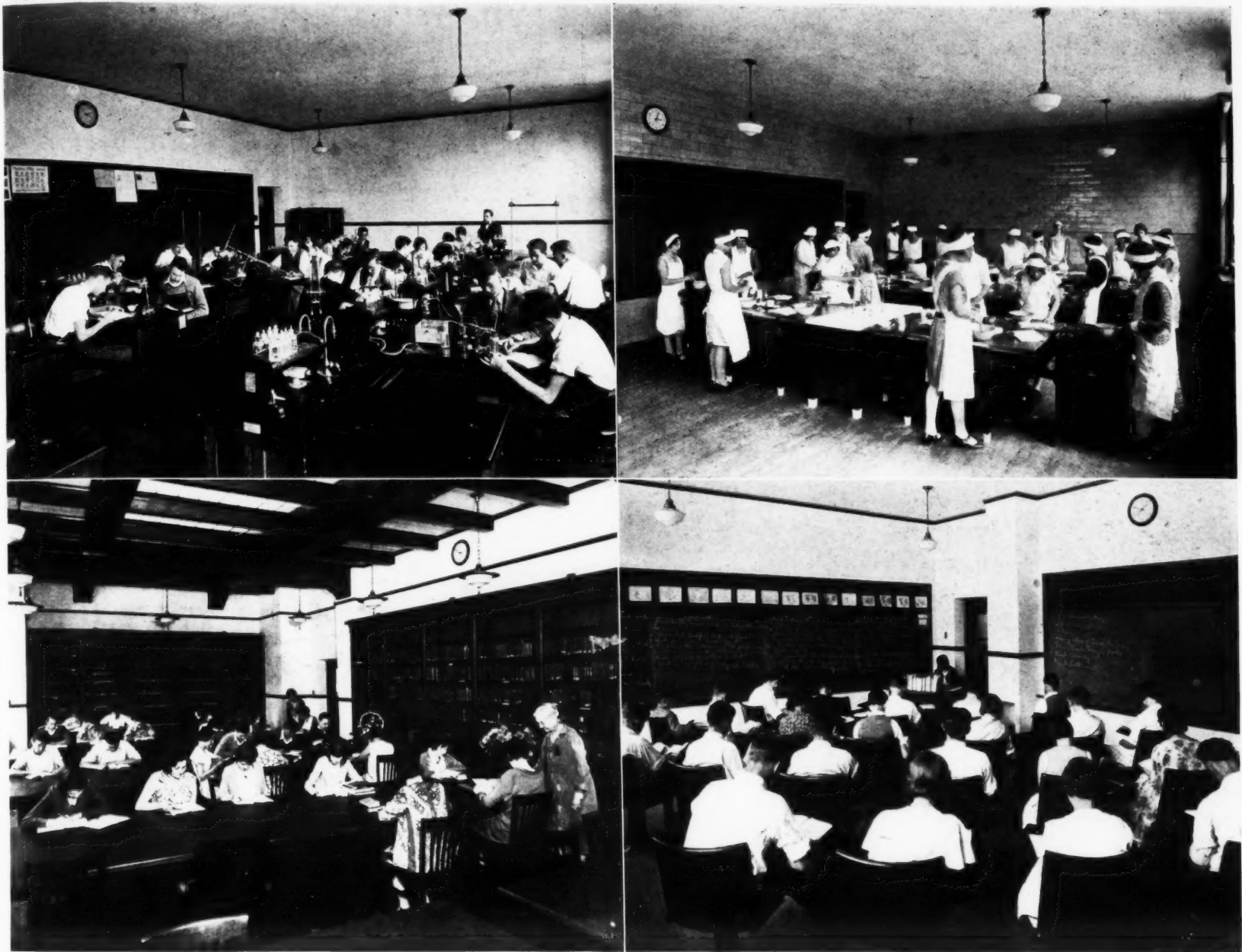
The classroom floors and the roofs are of wood-joint construction. All the classrooms have hard-maple floors, plaster finish, and oak trim. The auditorium has a glazed-brick wainscot, with an acoustical-tile ceiling. Acoustic tile has also been used in the typewriting room where considerable noise originates. The toilet rooms have terrazzo floors and walls. All windows throughout the building have terrazzo ledges. Glazed, light-cream brick are used in the light courts and assist materially to brighten the corridors, stairways, and toilets.

The classrooms and other instructional rooms are ventilated by means of unit ventilators. The plumbing equipment is of the heavy-duty school type. The electrical system includes lighting, as well as a complete program and clock system, and a radio and public-address system. The shops have electric power for the machinery.

The building was erected and equipped at a remarkably low price. The total contract amounted to \$318,914, of which the general contract called for \$289,258. The plumbing, heating, and ventilation cost \$58,197, and the



SECOND FLOOR PLAN, SENIOR HIGH SCHOOL, MATTOON, ILLINOIS
F. E. Berger and R. L. Kelley, Architects, Champaign, Illinois



INTERIOR VIEWS OF THE SENIOR HIGH SCHOOL, MATTOON, ILLINOIS
F. E. Berger and R. L. Kelley, Architects, Champaign, Illinois
TOP: Physical and Chemical Laboratory and Cooking Laboratory; BOTTOM: Library and Typical Classroom

electrical work cost \$11,514. The equipment cost approximately \$20,000, and old equipment from the former high school amounting to approximately \$10,000 was used.

Construction Data

Date contract awarded.....Oct. 2, 1928
Date building completed.....Sept. 15, 1929

Pupil Capacity and Cost

Pupil capacity of building.....	750
Pupil stations.....	300
Cost of building.....	\$289,258
Cost of equipment.....	\$29,656
Total cost of building.....	\$318,914
Cost per cubic foot.....	19¾ cents
Cost per pupil.....	\$385.68
Total cost per pupil.....	\$425.22

Design and Construction

Exterior design.....Modern gothic
Exterior facing.....Brick, with terra-cotta trimming
Exterior construction.....Brick and concrete
Corridor and stair finish.....Terrazzo
Classroom finish.....Plaster, oak trim, maple floors
Auditorium finish.....Glazed-brick wainscots, plaster, sani-acoustical-tile ceiling
Toilet-room finish.....Terrazzo floors, walls, and partitions

Mechanical Equipment

Type of heating and ventilation.....Unit system, with automatic temperature control
Electrical equipment.....Modern and complete
Plumbing.....Modern

The Building

Dimensions.....	350 by 350 ft.
Principal frontage.....	West for educational East for Gymnasium
Number of classrooms.....	20
Commercial department.....	2
Laboratories.....	2
Shops.....	2
Domestic-science rooms.....	3
Library.....	2
Study rooms.....	2
Fine arts.....	1
Public speaking.....	1

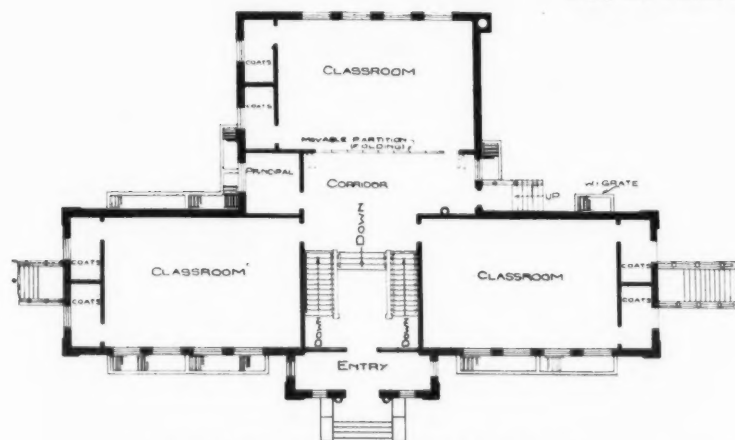
Music	1	Nurse	2
Book storage.....	1	Restrooms	3
Offices	3	Auditorium-gymnasium	130 by 152 ft.



STUDY HALL, SENIOR HIGH SCHOOL, MATTOON, ILLINOIS
F. E. Berger and R. L. Kelley, Architects, Champaign, Illinois



MOLINE SCHOOL, BADEN, MISSOURI
Study and Farrar, Architects, St. Louis, Missouri



FIRST FLOOR PLAN, MOLINE SCHOOL
The over-large, divided coatrooms in this building were introduced by the architects in response to a local demand on the part of the school authorities.



BASEMENT PLAN, MOLINE SCHOOL

TWO INTERESTING RURAL SCHOOLS

The idea seems to persist among school architects and school authorities that good design and careful planning of school buildings is necessarily limited to large buildings, or to buildings which involve a considerable outlay of money. It is this idea that has made so much of our rural-school architecture commonplace, that has caused so many village and country school buildings to be ugly and wasteful. It is, therefore, a pleasure to present two buildings in which the architects have planned with all the care that could be given to large and more important structures, and have produced buildings which are quite on a par architecturally with the better types of community libraries and town halls.

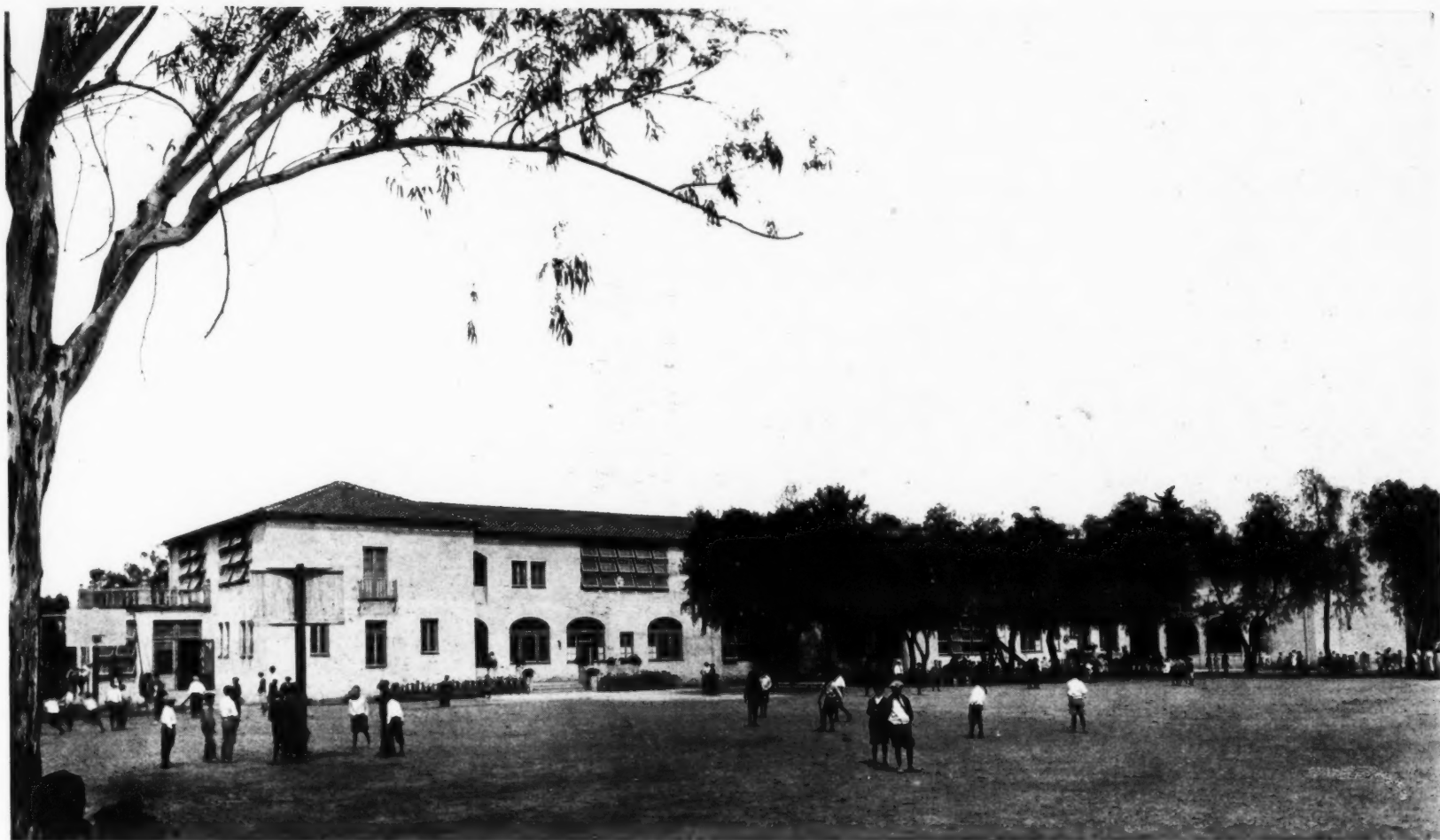
The Sappington School, Sappington, Mo.

The new elementary school at Sappington, Mo., is a four-room building, with a full basement, and four classrooms on the main floor. The foundations are concrete and the walls, as well as the inner partitions, are brick and tile. The floors and ceilings and the roof are of ordinary wood-joist construction, except the corridor, which has a floor of concrete with terrazzo facing. Corridor and classroom walls are of plas-

(Concluded on Page 123)



SAPPINGTON SCHOOL, SAPPINGTON, MISSOURI
Study and Farrar, Architects, St. Louis, Missouri



VIEW FROM PLAYGROUND, LINCOLN ELEMENTARY SCHOOL, RIVERSIDE, CALIFORNIA

THE LINCOLN SCHOOL, RIVERSIDE, CALIF.

The Lincoln Elementary School at Riverside, Calif., is a white-concrete building, with a red-tile roof and arched cloisters. The local community considers it an architectural gem, and the school authorities have found it to be a satisfactory solution of the difficult problem of providing an adequate building for 400 children upon a single city block surrounded on all sides with busy streets.

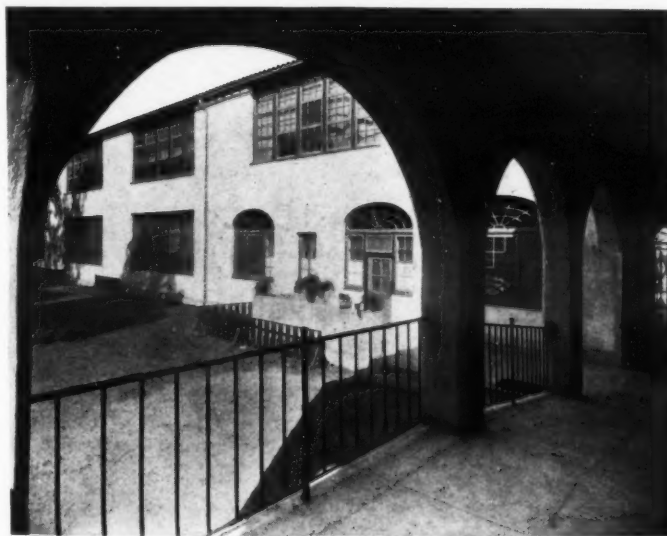
The original plan suggested for the building was a conventional structure, to be placed near the center of the site, and arranged with a central corridor, flanked on either side with classrooms. The architect, however, pointed out that such a plan would break up the playground for effective use, and that the structure would not be easy to heat or ventilate by the methods desirable for the local climate.

The building was accordingly located close to

the west side of the block. A single row of classrooms facing east extends along the main body of the building on each of the two floors. Into these classrooms the warm morning sunshine pours without interference. Protection from the afternoon heat is afforded by this very same arrangement, which places an open corridor, or cloister, to the west of the classrooms. This cloister is protected by wooden shutters that permit the free circulation of air without admitting the direct glare and heat of the sun. The arrangement thus insures maximum warmth in the morning and coolness in the afternoon.

The auditorium which extends across the north end of the building, measures 40 by 100 ft. The

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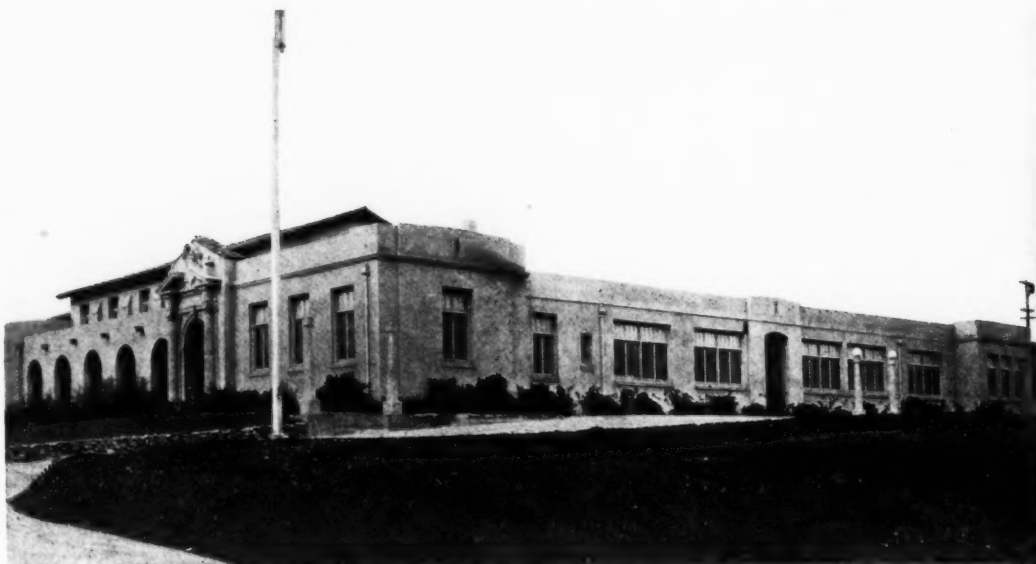
REAR VIEW, LINCOLN ELEMENTARY SCHOOL,
RIVERSIDE, CALIFORNIA

FRONT VIEW, LINCOLN ELEMENTARY SCHOOL, RIVERSIDE, CALIFORNIA

A HIGH SCHOOL FOR FEW J. H. Hawkins

The planning of a modern high-school building is a task for which, in addition to a knowledge of building construction, architectural design, and various branches of building engineering, the architect must be acquainted with the intricate details of the educational program which is to be carried on within the walls of the prospective structure. The instructional program of a present-day high school includes subject matter which varies from the fashioning of garments to the repair of motor cars; and the building, if it is to meet adequately the purposes for which it is intended, must provide rooms suitable for all the subjects to be taught. The functional planning of a high school would be a comparatively simple matter, if it were not for the fact that school boards are proverbially short of funds and that economy is almost as important as utility.

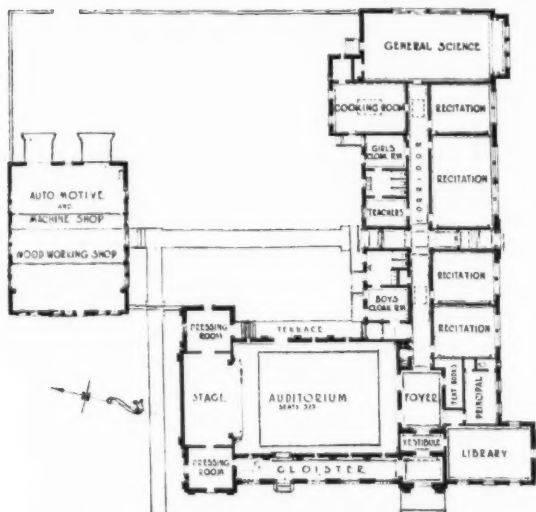
About midway between the cities of Los Angeles and San Diego, in that interesting country



SAN JUAN CAPISTRANO UNION HIGH SCHOOL, ORANGE COUNTY, CALIFORNIA
T. C. Kistner, Architect, San Diego, California



DETAIL, SAN JUAN CAPISTRANO UNION HIGH SCHOOL, ORANGE COUNTY, CALIFORNIA
T. C. Kistner, Architect, San Francisco, California



FLOOR PLAN, SAN JUAN CAPISTRANO UNION HIGH SCHOOL, ORANGE COUNTY, CALIFORNIA
T. C. Kistner, Architect, San Diego, California

between the mountains and the sea, there is a small town which has only about fifty students, but which has found it necessary to erect a complete and modern high-school building for their education. The Capistrano High School is a beautiful structure. It is at the same time a good example of the progress in schoolhouse architecture in a section of California which

(Continued on Page 126)

THE SHARP CORNER SCHOOL, NILES CENTER, ILL.

The Sharp Corner School, at Niles Center, Ill., is a graded school, with accommodations

for 250 students. The contract for the construction work was awarded in 1928, and the building was completed and occupied in February, 1929.

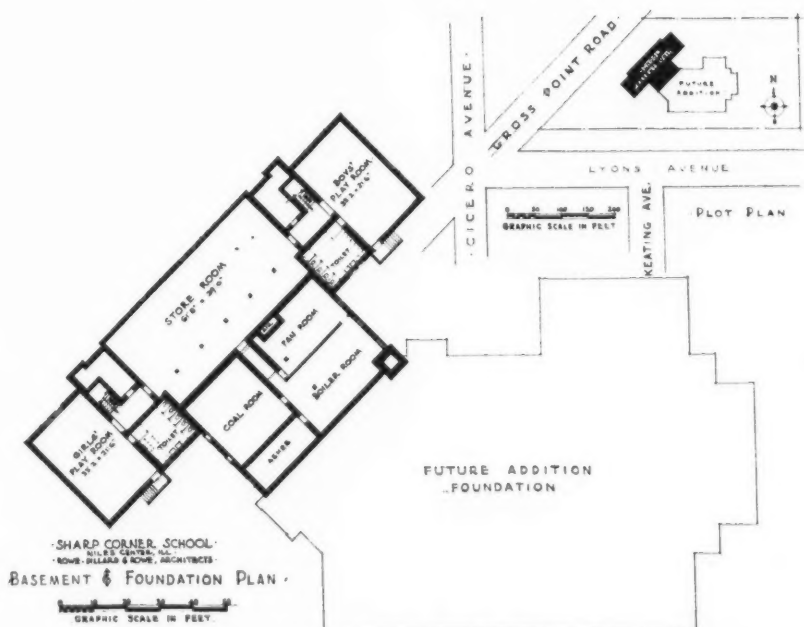
The building is in the American Georgian style of architecture. It is constructed of tapestry brick, with trimming of white stone. The interior construction material is steel joist and concrete slab, with plaster walls and concrete base. The corridors and stairs are of rubberstone, and all corridors are equipped with built-in wardrobes. The classroom finish is sand plaster. The toilet rooms have cement floors and steel stalls.

The present building is the nucleus for a large elementary school which will be erected ultimately as the population of the community grows. The present building contains, in the basement, two playrooms, an unfinished store-room, and space for the heating and ventilating apparatus.

The first floor contains six standard classrooms, an office, and a teachers' room. On the second floor there is an assembly room, which is arranged to be divided ultimately into two classrooms.

The building is heated with a blast system of heating, with automatic temperature control. The electrical equipment which is complete, includes a modern electric-program system for classes.

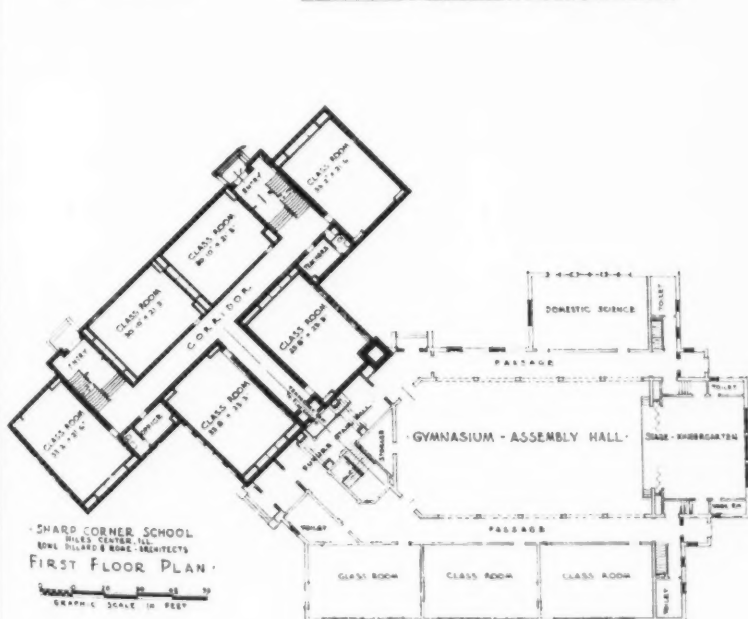
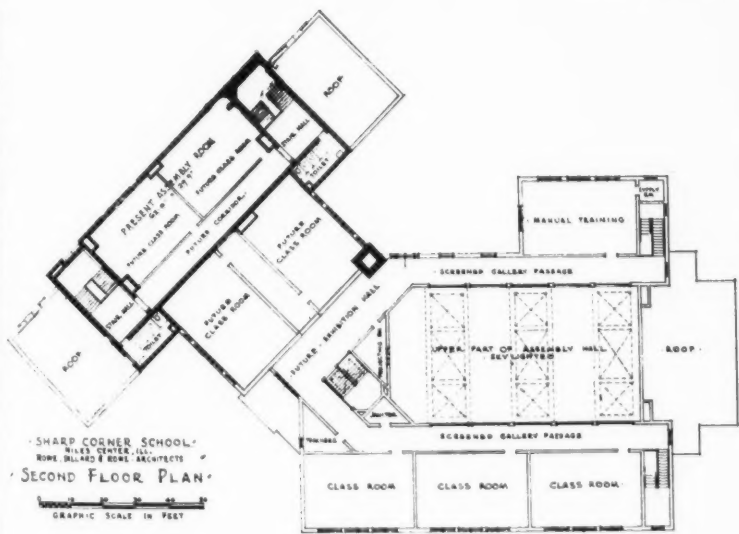
The building was erected at a cost of \$75,101. Messrs. Rowe, Dillard & Rowe, of Chicago, Ill., are the architects.



BASEMENT AND PLOT PLAN OF THE SHARP CORNER SCHOOL,
NILES CENTER, ILLINOIS
Rowe, Dillard and Rowe, Architects, Chicago, Illinois
(See Page 55)



SHARP CORNER SCHOOL, NILES CENTER, ILLINOIS
Rowe, Dillard and Rowe, Architects, Chicago, Illinois



ENTRANCE,
SHARP CORNER SCHOOL, NILES CENTER, ILLINOIS
Rowe, Dillard and Rowe, Architects, Chicago, Illinois



McGRAW HIGH SCHOOL, McGRAW, NEW YORK
Carl W. Clark, Architect, Cortland, New York, and New York City

THE McGRAW HIGH SCHOOL, McGRAW, N. Y.

The McGraw High School at McGraw, N. Y., has been designed as a combined elementary and high school and is a most attractive structure. The building, which is two stories high, has a pupil capacity of between 360 and 400 pupils. It was erected during the school year 1928-29, and was dedicated in September, 1929.

The building is 126 ft. wide and has a depth of 103 ft. It is of Type B school construction, which combines safety with low cost and permanence. The outside walls are tile, faced with

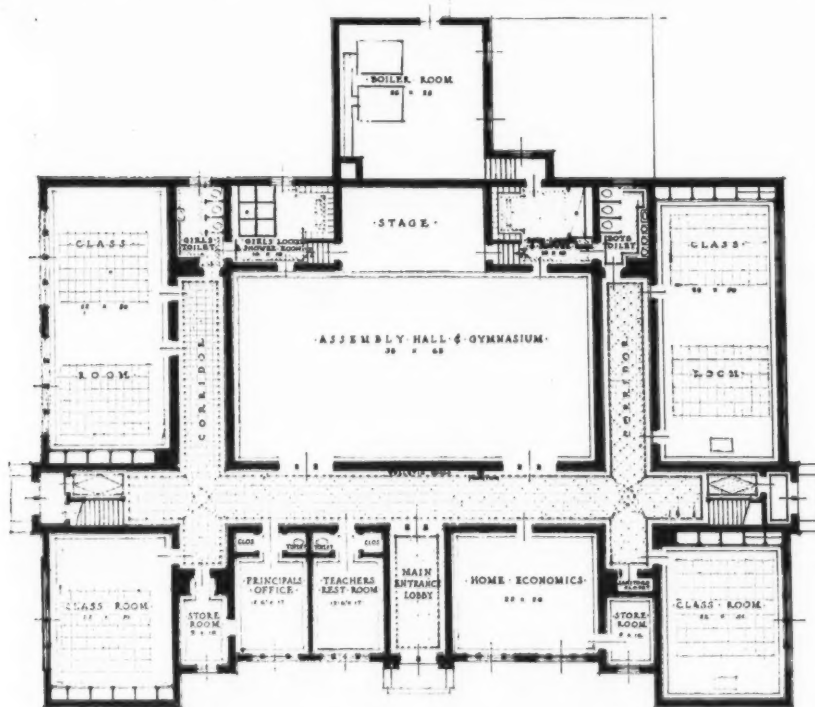
tapestry brick, and trimmed with cast stone. The inside walls are also brick and terra cotta. The entire basement, the corridors, and the stairs are fireproof; the classroom floors and the ceilings only are of slow-burning construction.

The entire ground floor, except the gymnasium, has a finish floor of rubber-stone tile. The same material has been used in the upper corridors, but the classrooms and the gymnasium are finished with clear maple floors. The corridors, classrooms, and toilets have white walls and dark-oak trim. The gymnasium has 5-ft. dados of yellow brick, and the walls are tinted

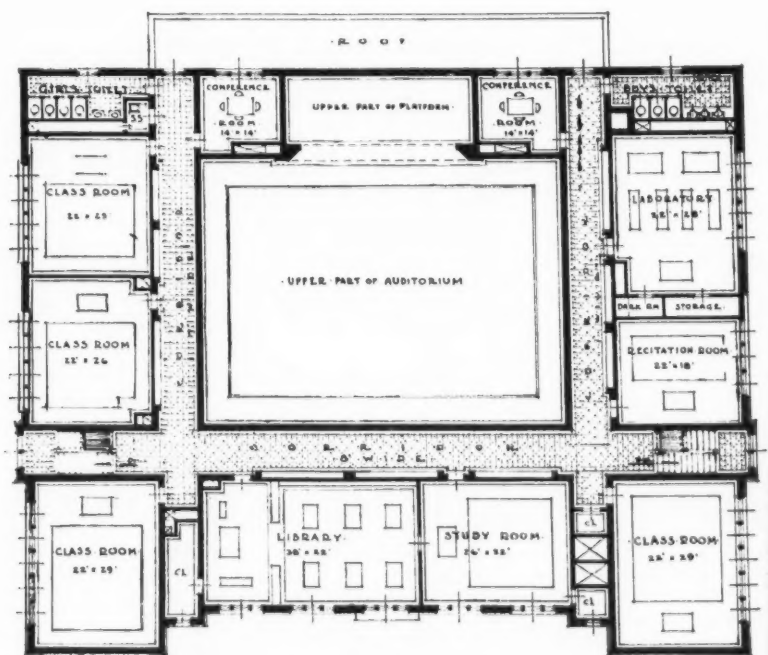
in light buff to harmonize with the sound-control material on the ceiling.

In addition to thirteen classrooms, the building contains a general-science laboratory, a library, a teachers' restroom, a principal's office, a home-economics room, two artrooms, a commercial department, and a combined auditorium-gymnasium, with locker and dressing rooms.

The building was erected at a cost of \$127,000, including the equipment, which cost \$5,000. It was designed and erected under the supervision of Mr. Carl Wesley Clark, architect, of New York City.



GROUND FLOOR PLAN



SECOND FLOOR PLAN

McGRAW HIGH SCHOOL, McGRAW, NEW YORK
Carl W. Clark, Architect, Cortland, New York, and New York City

Pittsburgh's New Salary Schedule in Operation

S. E. Weber, Associate Superintendent in Charge of Personnel, Pittsburgh, Pa.

In a previous article, printed in the April number of the SCHOOL BOARD JOURNAL, the writer pointed out that the operation of the present salary schedule in Pittsburgh is centered primarily on enlarging the possibilities for teachers, principals, and supervisors to render a higher quality of service. With such an objective in view, the personnel department in cooperation with the superintendent of schools, the members of his staff, directors of special subjects, supervisors, principals, and teachers formulated programs for improving teaching, administrative, and supervisory procedures. These programs were placed in the hands of all supervisors, principals, and teachers as guides by which they could analyze their own personal, academic, and professional equipment, evaluate such equipment, and proceed to strengthen such equipment. The steps of classification used are: superior, excellent, good, fair, and unsatisfactory.

The whole plan is based on a progressive development of the members of the teaching, administrative, and supervisory groups of the entire school system. Each group is to be provided with a kind of environment that leads to voluntary steps for professional self-improvement. The emphasis is applied constantly to the commendation of improved service rather than to the condemnation of unsatisfactory service. Again, the degree to which such professional self-improvement can be effected by positive programs is a distinct challenge to the personnel department, and to the associate superintendents, directors of special subjects, the research department, the supervisors, and principals.

The same objective actuated the board of education to provide a range of salaries between the minimums and the automatic maximums in each salary scale which would make the wage paid to every teacher a livable wage, comparing favorably with similar scales of salaries paid in other large cities in the United States. The automatic range of salaries for grade teachers extends from \$1,200 to \$2,200, with annual increments of \$100. The range for junior-high-school teachers extends from \$1,800 to \$2,850, with annual increments of \$175. The sched-

ule for senior-high-school teachers extends from \$1,800 to \$3,200, with annual increments of \$175.

The Budget Provisions

As a reward for exceptional service the board of education has provided in its budget covering a 6-year period the sum of \$758,537.50.

Item	Summary of Maximum Additional Costs					
	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
Schedule A.....	\$240,000	\$348,000	\$420,000.00	\$463,200.00	\$484,800.00	\$492,000.00
Schedule B.....	50,750	61,250	68,450.00	72,050.00	73,250.00	73,250.00
Schedule C.....	45,900	76,500	94,860.00	104,040.00	107,100.00	107,100.00
Principals	29,500	39,925	51,187.50	51,187.50	51,187.50	51,187.50
Personnel Department.....	35,000	35,000	35,000.00	35,000.00	35,000.00	35,000.00
Total	\$401,150	\$560,675	\$669,497.50	\$725,477.50	\$751,337.50	\$758,537.50

This item is provided over and above the budget necessary to operate the automatic salary schedules. It makes possible the granting of an additional increment of \$200 to 15 per cent of the teachers in each group who have reached the automatic maximum, if they demonstrate superior teaching ability; the granting of 2 additional increments of \$200 each to 12 per cent of the teachers in each group who have reached the automatic maximum, if they demonstrate further superior teaching ability; the granting of 3 additional increments of \$200 each to 9 per cent of the teachers in each group who have reached the automatic maximum, if they demonstrate still greater excellence of service. By the same method 6 per cent of the teachers in each group who have reached the automatic maximum may obtain 4 additional increments of \$200 each, and 3 per cent of the teachers in each group who have reached the automatic maximum may obtain 5 additional increments of \$200 each, or \$1,000 above the automatic maximum. It is to be noted that 45 per cent of the teachers at the automatic maximum may be advanced \$200, \$400, \$600, \$800, or \$1,000 within a cycle of 5 years, beyond the automatic maximum according to the "superior teaching level" reached. It is assumed that 55 per cent of the teachers at the automatic maximum will be unable to qualify for any of the "superior teaching levels." Experience with the

operation of these percentages should demonstrate the wisdom of setting up the several percentage distributions.

The foregoing percentages of teachers who may be advanced to the different steps of superior teaching levels were fixed for budgetary control by the board of education upon the recommendations of the Citizens' Committee on

Teachers' Salaries comprising 40 of Pittsburgh's outstanding citizens. To clarify the position of the board, Supt. W. M. Davidson submitted for its approval the following annotations:

The Board's Requirements

"Note 1: The words *Superior Teaching* and *Superior Service* shall be definitely understood by both teachers and administrative officers as *very searching terms* when applied to the procedure involved in the selection of candidates for promotion to the superior levels of the salary schedules.

"Note 2: The superior levels shall not be construed as a permanent classification for any teacher, principal, or supervisor. Failure to keep up a high grade of work should result in a change to a lower salary level.

"Note 3: It will be obvious that in inaugurating the new plan great care must be exercised in the recommendation of members of the teaching staff for promotion to the superior levels, to the end that a bar shall not be set up against those who are below the first step of the superior levels, nor against those who may be eligible to promotion hereafter from one superior level to another superior level.

"The above means that to be just to all, it will be necessary to recognize that the several quotas established in connection with each of the superior teaching levels may not necessarily (or if ever at any given time) reach the maximum of the quotas made possible through the operation of the above prescribed percentage limits, either before or after the 5-year period, when the first cycle in the operation of the new plan shall be completed.

"Here again the *high quality of service*, when kept in mind by both administrative officers and teachers, will be recognized as a *just and proper principle of 'control'*, a 'control' more important by far for real educational purposes than the 'budgetary control' prescribed in the percentage limits recommended by the citizens' committee.

"Note 4: In this connection it is recommended that the board approve the recommendation of the citizens' committee to the effect that 'it shall not be mandatory upon the board to fill any level to its maximum allowance at any given time.'

These explanatory statements were incorporated in the board's final approval of the new salary schedule on December 23, 1929.

The First Promotions

The first groups of teachers to become eligible for promotion under the "superior teaching level" plan adopted by the board of education were junior-high-school and senior-high-school teachers. In the junior-high-school group 176 had reached the automatic maximum salary of



LIBRARY, MCGRAW HIGH SCHOOL, MCGRAW, NEW YORK
Carl W. Clark, Architect, Cortland, New York, and New York City

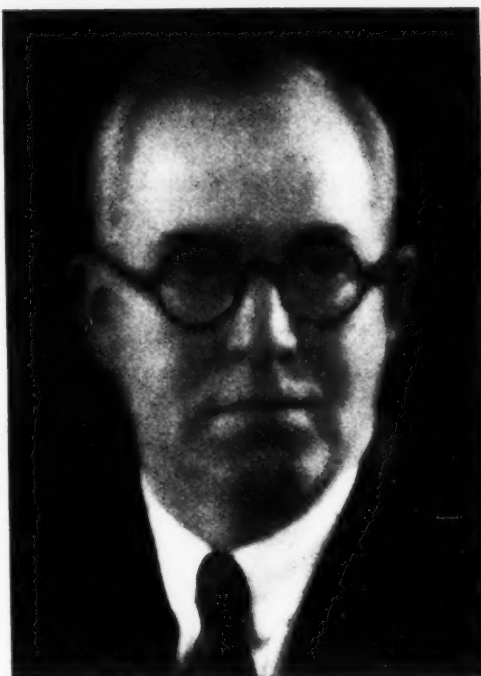
\$2,850. Out of that number, 79, or 45 per cent of those at the automatic maximum salary, could have been advanced in salary if they had been classified as superior teachers. A total of 56, or 31.2 per cent of those at the automatic maximum, were recommended for promotion in salary. The percentage advanced in salary last January on the junior-high-school schedule permits a margin of 13.8 per cent for the promotion in subsequent years of some of those who failed of promotion earlier or who had not reached the automatic maximum previously. It should also be observed that the number promotable each year increases as the number who reach the automatic maximum is increased from year to year.

On the senior-high-school schedule 309 had reached the automatic maximum salary. On the basis of 45 per cent promotable, 139 were eligible for consideration. Out of the 139 eligible for consideration, 108, or 34.9 per cent, were recommended. This leaves a leeway of 11.1 per cent of this group who may be advanced in subsequent years.

Recommendations for advancement to "superior teaching levels" are made to the superintendent of schools by the associate superintendent in charge of personnel. To aid him in visiting the classes of those eligible for consideration three assistants have been provided, two outstanding high-school teachers who are college and university trained and who have had considerable experience in both elementary- and high-school grades, and one outstanding elementary-school principal who has both college and university training.

The classification of each teacher eligible for consideration is arrived at by the personnel department as a result of direct classroom visitation by one or more of its members, the personnel record of such teacher, and the recorded judgment of all those in administrative and supervisory relationship with such teacher—principal, supervisor, directors of special subjects, department of research, and associate superintendent. The personnel department assumes the responsibility for the final classification, but it does depend upon every possible source for the derivation of such final classification.

Recommendations for promotion to any of the "superior teaching levels" are made to the board of education each November, the new



FRANK G. PICKELL
Superintendent of Schools,
Montclair, New Jersey

Mr. Frank G. Pickell, superintendent of schools of Montclair, N. J., was recently highly honored by the local board of education. The tribute in the form of a continuous contract, the first of its kind in the state, was presented to Mr. Pickell at the close of a seven-year period of outstanding administrative service to the city school system of Montclair. With the possession of a continuous contract, Mr. Pickell will continue to serve the school system without the formality of an annual election. Under the arrangement he will be given an initial salary of \$12,500, with subsequent salaries to be determined in advance of the beginning of each successive school year.

Mr. Pickell in entering upon his eighth year of successful school-administrative service in Montclair, will continue to act as head of one of the most efficient and progressive school systems in the country.—E. L. T.

salary levels to become operative the following January 1. Every group of teachers in Pittsburgh will be included in the next list of recommendations. Approximately 2,000 teachers out of a total teaching body of 3,500 are eligible for consideration in November, 1930.

Schoolhouse Fire Insurance in Pennsylvania

The matter of insuring school property against fire losses has received the attention of school administrators in various cities and sections of this country. In each instance it has been found that the subject, in the light of the economies involved, is one that deserves thorough analysis and adjustment.

In view of this fact, the study completed under the auspices of the Pennsylvania State Association of School Directors assumes considerable importance. A special committee on fire insurance, headed by Mr. Thomas A. Mellon, of Easton, engaged in an investigation of the subject and brought to its service not only an exact knowledge of the situation as applied to the schoolhousing of the state as a whole, but also drew into counsel and cooperation the best insurance experts to be found.

The result is a comprehensive report consisting of a series of definite recommendations based upon the accumulated experience of the school administrators in all parts of the state.

Insurance Adviser Recommended

The first of these recommendations deals with the importance of selecting an insurance adviser, a man versed in all that the subject of fire insurance implies, and one of recognized

character and experience. On the assumption that such a man is engaged in the insurance business the report says: "The insurance adviser should serve without compensation except where additional insurance can be given to him in such an amount as the school board may deem commensurate with service rendered."

It is then suggested that "the school board should employ a building contractor or appraiser of responsibility and experience to make an accurate valuation of each building within the school district using the special form provided for this purpose. The school board should have an accurate inventory made of the contents of each building, including supplies, using the same form."

Then follow a number of definite directions which we quote: "An insurance ledger should be opened showing a separate account for each building, setting up the valuation of each building as shown by the 'Special School-Building Valuation Form.' This ledger account should show charges for all permanent improvements or additions and show credits for anything that might detract from the value of buildings."

"A perpetual inventory record should be kept of all contents and supplies, setting up the values as shown by the 'Special School Contents

Inventory Form,' charging the account with purchases and crediting for requisitions as issued from various buildings. The shifting of furniture from one building to another should be carefully recorded. If preferred, a yearly inventory of the contents and supply account can be made, which will answer the same purpose.

"When the appraised values of buildings and contents are completed, a schedule should be prepared describing the construction and location of each building and giving the insurable value of each building which must be at least 80 per cent of the valuation as shown by the form. The contents and supplies should be shown on the schedule in a total amount with the insurable value extended of at least 90 per cent of the inventoried valuation. This schedule should be carefully prepared under the supervision of the insurance adviser so as to make certain that the buildings and contents are covered at full insurable value and properly classified and rated."

After the schedules are finally approved by the Underwriters Department, the insurance adviser should have the policies issued under a plan that would conform to the annual school budget system on a five-year basis so that one fifth of the total insurance will expire each year in the following manner: Say that the total insurance is \$500,000. Then insurance in the amount of

\$100,000 is issued for 1 year and renewed for 5 years on expiration.

\$100,000 is issued for 2 years and renewed for 5 years on expiration.

\$100,000 is issued for 3 years and renewed for 5 years on expiration.

\$100,000 is issued for 4 years and renewed for 5 years on expiration.

\$100,000 is issued for 5 years and renewed for 5 years on expiration.

The report goes on to state that "all policies in force at the time this new plan becomes effective should be canceled on the pro rata basis and the return premium credited by the agents to the new insurance account. In the event that perpetual insurance is in force, such policies need not be canceled, but should be indorsed so as to make them concurrent with the new policies and the amount of such perpetual insurance deducted from the total amount of insurance for distribution. After all policies finally are issued and approved, they are to be delivered to the school board and filed for safe keeping by the secretary of the school district, together with all schedules, rates, appraisals, etc. All changes in rates or indorsements and all adjustment for losses or claims should be made under the supervision and advice of the insurance adviser, subject to the school board's approval.

Summarizing Conclusions

In summarizing the results of a state-wide adoption of the so-called Pennsylvania school-insurance plan, the committee contends that all school districts may make substantial reduction in their fire insurance costs. The plan solves three serious problems of far-reaching importance especially insofar as the smaller school districts are concerned. These are enumerated as follows:

First, through the proper classification and valuation of the buildings as provided in the plan, all school buildings are certain to be adequately insured so that, in event of a loss, the school district where the loss occurs is certain to have immediate available cash to restore its property.

Second, the questionnaire showing the insurable condition of each building will enable the insurance adviser to promptly answer to the school board any question regarding a fire hazard in any building and show the saving to be gained by the correction or elimination of the hazard.

(Concluded on Page 126)

Organizing the High School for Supervision

J. M. Hughes and E. O. Melby, Northwestern University

In a recent study of high-school supervision¹ six distinct types of supervisory organization were found to be in operation. A survey of as few as 20 high schools revealed the presence of all six types. Interviews with high-school principals and teachers brought out the sharpness with which school people differ with regard to the question of who should assume the responsibility for the performance of the supervisory function in our secondary schools. It is the purpose of this article to report an attempt to evaluate the six types of supervisory organization by a method of group judgment and to discuss briefly what the evaluation implies concerning the problem of organizing a high school for effective supervision.

The Six Types of Organization

The six types of organization are briefly described in Table I, together with the frequencies with which each type was found. The types of organization and the frequencies apply only in the organization of social-science departments in larger high schools. It can only be inferred whether the conditions shown in Table I are also general with respect to certain other departments and schools of other sizes.

TABLE I

The Form of Organization Operating at the Present Time in High-School Systems as Reported by 303 High-School Principals

Plan	Frequency of Mention
The responsibilities for supervision are vested	
a) jointly in the superintendent, principal, and department head.....	101
b) jointly in the principal and department head.....	112
c) in the head of the department.....	26
d) in the principal.....	49
e) in the special supervisor of instruction (all departments).....	8
f) in the special supervisor of instruction in all grades (social science).....	7
Total.....	303

The supervisory responsibility, it appears, is a divided one in most high schools. In about one third of the schools supervision is carried on by the superintendent, the principal, and department heads. In another one third, supervision is the joint undertaking of the principal and department head. It is significant, however, that in the remaining one third of the high schools the responsibility for the performance of the function of supervision is vested in a single individual. There are, however, four opinions as to who this single individual should be.

Evaluation of Types of Organization

The six types of organizations were submitted to superintendents of large city school systems, to educational specialists, to high-school principals in high schools of 1,500 pupils or more, and to high-school teachers in the social-science departments of large high schools. These groups were asked to rank the six types of organization in the order of their judgment as to the relative effectiveness of each type for contributing to the improvement of instruction in high school. Replies were received from 33 specialists, 43 superintendents, 303 principals, and 357 social-science teachers. The percentage of each of the four groups which assigned first rank to the various plans is given in Table II.

There is a great division of opinion as to what constitutes the most effective type of organization. No plan is given first rank by much more than one third of the members of any group. There are, nevertheless, certain group

TABLE II
Comparing the Percentages of 536 Specialists, Superintendents, Principals, and Teachers Who Assigned First Rank to Six Forms of Organization for the Supervision of Instruction in Social-Science Departments of Large High Schools

Departments of Large High Schools		Group and per cent giving plan first rank		
Plan		Superintendents	Principals	Teachers
The responsibilities for supervision are vested				
	Specialists			
a) jointly in the superintendent, principal, and department head.....	12.9	36.	33.4	17.6
b) jointly in the principal and department head.....	29.	20.2	31.	20.
c) in the head of the department.....	12.9	2.5	7.7	25.8
d) in the principal.....	3.2	7.5	8.5	4.5
e) in a special supervisor of instruction.....	9.7	5.	3.8	2.2
f) in the special supervisor of instruction social science—grades 3-2.....	32.3	28.3	15.2	29.8
Number included.....	31	39	281	345
Number not ranking.....	2	4	22	12
Plan receiving first rank.....	6	1	1	6
Plan receiving second rank.....	2	6	2	3
Plan receiving third rank.....	1	2	6	2

tendencies. Specialists and teachers give first rank to the plan of providing a special supervisor of social studies for all grades. Superintendents give first rank to the plan of carrying on supervision as a joint undertaking of the superintendent, principal, and department head. The special supervisor is not as highly regarded by the principals as by the other groups. Teachers favor vesting supervision with department heads or with a special supervisor. Vesting supervision in the department head alone is a plan which received substantial support from only the teachers.

The Attitude of Teachers

It is plainly evident that teachers favor the specialized type of supervision. Interviews with teachers indicate that the teachers justify their position in two ways. First, they are so conscious of specialization that they do not see how a general supervisor can be of much help to them. Second, they believe that the responsibility for both supervision and administration cannot be successfully allocated to the same individual. The attitude of the teachers should not be construed to be one of opposition to supervision. The teachers are anxious for supervision. But they maintain that the purposes of supervision are frustrated when the supervisor tries to help them today, and then tomorrow assumes the rôle of inspector. "How," says the teacher, "can I be expected to discuss with utter frankness my problems and difficulties today with one who tomorrow will come to rate me for reemployment or promotion?" If the special supervisor is to be both administrator and supervisor, conditions are just as objectionable to teachers as when administrators attempt to discharge both the functions of administration and supervision. In other words, there appears to be a conflict between the functions of administration and supervision.

The conflict between administration and supervision is evidenced in another way. It is contended that, when two functions are vested in the same individual, the function of more immediate importance will take precedence over the one of less immediate importance. Thus, the principal, it is argued, gives the major portion of his time and effort to administration because the administrative duties are more pressing. They must be attended to. The school will run even though there is no supervision. Therefore, there are those who hold that it is futile to expect a thoroughgoing program of supervision in high schools so long as principals are to be the supervisors.

Some Possible Solutions

It would appear that administrators in providing for supervision in high schools may proceed in at least three different ways. They may disregard the attitude of teachers and set up any type of supervisory organization they select. Since such a course of action is contrary to the

spirit of modern school administration, it, perhaps, needs no further consideration. If teacher attitude is to be considered, either the school must be organized to provide specialized supervision which is separated from administration (especially inspection), or changes must be made in existing supervisory procedure which will make the activities of the general supervisor (who is also administrator) acceptable to teachers.

Specialized Supervision

The usual method of providing specialized supervision is by means of department heads. The department heads are assumed to be trained to supervise and to have time for supervision. The principal will still be a general supervisor in charge of specialist supervision, a supervisor of supervisors. In order to avoid a conflict between supervisory and administrative functions, the head of the department will relinquish his administrative functions, especially those of inspecting and rating. He may then assume the rôle of a real technical adviser to the teachers in the department.

However, specialized supervision seems ill adapted to small schools, since in many cases there may be but one teacher to a department. In medium-size schools with three or four teachers to a department the expense of employing a highly trained supervisor for each department would probably present serious difficulties. Even in the large schools the department head usually carries a heavy teaching load and feels that he has insufficient time for the performance of his supervisory functions. It may be that large schools should reduce the teaching loads of department heads. In the smaller schools it might be possible to place supervision in the hands of a successful teacher who may, in addition to his or her training for teaching, have some training in the technique of high-school supervision. In fact, there is some argument for doing this in all schools regardless of size. When supervision is aligned with administration in the allocation of functions, the two tend to conflict. The functions of teaching and of improving teaching are more similar in nature than are the functions of administration and supervision. There is as little conflict between the two functions as could be hoped for. A superior teacher trained also in the techniques of supervision might be relieved of some teaching to devote time to bringing about improvement in the instructional skill of other teachers. Since there would be no necessity of vesting this teacher with any of the responsibilities of inspectorial control, she would be in a rather strategic position to proceed effectively with the performance of supervisory duties.

General Supervision

Can general supervision by principals or general supervisors be made acceptable to teachers?

(Concluded on Page 123)

¹J. M. Hughes and E. O. Melby, *Supervision of Instruction in the High School*, Northwestern University Contributions to Education, School of Education Series, No. 4, 1930. Public School Publishing Co., Bloomington, Ill.

Legal Aspects of Teachers' Contracts

Fred G. Stevenson, Ann Arbor, Mich.

The General Law of Contracts

The general law of contracts applies to teachers' contracts except as modified by legislative enactments of the several states. A contract is defined in law as "an agreement which creates an obligation." Five essential elements of a contract are: (1) parties competent to contract, (2) a subject matter, (3) a legal consideration, (4) mutuality of agreement, and (5) mutuality of obligation.¹

A contract may, or may not, be evidenced by a written instrument. A valid contract may be made by a telephone conversation,² but under most statutes it is expressly required that a contract with a school teacher be in writing. Under such a statute an oral contract is unenforceable.³

A contract must be mutual, certain, and definite in its terms and free from fraud and illegality. It is essential to the validity of a contract that it comply substantially with all formal requisites prescribed by statute, such as the signature of officers, that it state the term for which the teacher is employed, the wages to be paid, and other agreements entered into by the parties thereto.

A written agreement is not necessary to evidence a contract if not required by statute. A contract is proved by the minutes of the board showing that a teacher has been elected for the ensuing year. It has been held that a teacher previously employed who had entered upon his duties after such action by the board had a contract for the year.⁴

A Vote Insufficient

The mere vote of a school board in favor of employing a certain person as teacher does not, however, constitute a contract of employment of such person. Such action by the board amounts only to an offer of employment, which the board may revoke or cancel at any time before its acceptance. The acceptance of such an offer constitutes a contract. If the board acts to accept an application for a position as teacher then the contract is complete when the applicant is elected to a position.⁵

In the absence of any restrictions it is customary to employ the same teacher for the school year. Several states have statutes specifying longer periods of employment or indefinite tenure for teachers.

In the absence of a statutory provision limiting either expressly or by implication, the time for which a contract for employment of a school teacher may be made to a period within the contracting school board's or officer's term of office, such board or officers may find their successors in office by employing a teacher or superintendent for a period extending beyond their term of office, provided such contract is made in good faith, without fraud or collusion, and for a reasonable period of time. A succeeding board or officers cannot ignore such a contract because of mere formal and technical defects or abrogate it without a valid reason therefor.⁶

Powers Regulated by Statute

The power and duty of selecting and appointing school teachers or a school superintendent usually are regulated by statute, and in order that the selection or appointment may be valid, there must be compliance with all the substantial requirements of the statute relative to the

mode of making such selection or appointment. If a provision is mandatory, it must be strictly followed.⁷

It is essential to a contract that the nature and extent of its obligations be certain. If an agreement is uncertain, it is because the offer was uncertain or ambiguous to begin with, for the acceptance is always required to be identical with the offer. Where a contract of employment does not specify its duration, the position to be filled, nor the wages, it is void for uncertainty.

"The offerer has a right to prescribe in his offer any conditions as to time, place, quantity, mode of acceptance, or other matters which it may please him to insert in and make a part thereof, and the acceptance, to conclude the agreement, must in every respect meet and correspond with the offer, neither falling short of nor going beyond the terms proposed, but exactly meeting them at all points and closing with them just as they stand."⁸

A school board or officers authorized to contract with teachers have the power to fix the salaries to be paid them, except insofar as they may be limited or restricted by statute, or by rule or regulation of the school board. It has been held under various statutes that a teacher may be employed at a salary specified to be for the whole term.

A board may not employ teachers at salaries exceeding appropriations made for salaries.

Effect of Closing of School

As a general rule, it is held that a contagious disease or the destruction of a building is not an Act of God removing liability from the district as rendering performance of contract impossible. Where a teacher is ready and offers to continue in his duties under his contract of employment, no deduction can be made from his salary for the time that the school is closed by reason of a contagious disease, or by reason of the destruction of the school building, or by its becoming in a condition unfit for school purposes, unless there is a stipulation in the contract covering such a possible occurrence, or unless it be closed by authority of the law.

Liquidated Damages

"Liquidated damages" is a sum to be paid in lieu of performance of contract. A penalty is in effect security for the performance of contract. A provision in a contract as to the sum to be paid in event of breach will, if it is a provision for liquidated damages, be enforced according to its terms. If it is a provision for a penalty, the recovery will be limited to the actual damages sustained.⁹ A provision is more readily construed as for liquidated damages and not as for a penalty where the actual damages are difficult to determine.¹⁰ The courts have usually construed damages as liquidated in breaches of contract of employment on the ground that such damages can rarely be estimated. In such cases the stipulation must be reasonable and bear some proportion to the breach complained.¹¹

Statutory Requirements Affecting Teachers' Contracts

Anderson reports that 33 states require contracts with teachers to be in writing.¹² Fifteen states have no legislation requiring written contracts. Some states permit certain school dis-

tricts to employ teachers without using written contracts and require other districts to use written forms of contracts, as does New Jersey.

The New Jersey statute reads in part as follows: "A board of education may make rules and regulations governing the engagement and employment of teachers and principals, the terms and tenure of such employment, and the promotion and dismissal of such teachers and principals, the salaries, and the time and mode of payment thereof, and may from time to time change, amend, or repeal such rules and regulations. The employment of any teacher by such board and the rights and duties of such teacher with respect to such employment, shall be dependent upon and shall be governed by the rules and regulations in force with reference thereto. If a board shall not have made rules and regulations as aforesaid, then no contract between such board of education and a teacher shall be valid unless the same be in writing . . . in triplicate, signed by the president, secretary, and teacher. Such contract shall specify the date when such teacher shall begin teaching, the kind and grade of certificate held by such teacher, and such other matter as may be necessary to a full and complete understanding of the same."¹³

The effect of the New Jersey statute is to permit organized city districts to employ teachers under their rules and regulations without any specified form of contract, but to require districts not so organized to use a definite written contract in employing teachers. The requirements for the written contracts are similar to those of other states.

Written Contracts Most Frequent

The Vermont statute provides that "A contract between a board of school directors and a teacher shall not be valid unless the same shall be in writing . . . in triplicate and signed by the chairman of said board and by the teacher. . . . Such contract shall specify the date when the teacher shall begin service, the grade and date of expiration of the certificate held by the teacher, the salary of the teacher, and such other matter as may be necessary for a complete understanding between the parties."¹⁴

The West Virginia statute demands that all teachers, principals, and assistants execute a contract with their boards of education before entering upon their duties. The contract must state the duration of the employment and the salary to be paid. At the time of signing, the teacher must take an oath to support the Constitution of the United States and the state constitution.¹⁵

The North Carolina, Florida, Louisiana, Iowa, and Oklahoma statutes require written contracts with teachers as a prerequisite to the payment of their salaries.

Indiana requires that a contract to teach in the public schools be in writing and that such contract will not be valid unless the teacher at the time of making it holds a valid county or state teacher's license. The contract must stipulate the date of beginning of the school term, the number of months of the school term, the total salary for the school year, and the number of salary payments.¹⁶

Table I shows the number of states making certain statutory requirements as to stipulations in the teacher's contract form. It is based upon a chart in which Anderson¹⁷ shows laws de-

¹13 C. J., 237.

²13 C. J., 239.

³35 Cyc., 1082.

⁴Polk v. Santa Barbara Board of Education, Calif., 1903.

⁵74 Pac., 47.

⁶35 Cyc., 1081.

⁷35 Cyc., 1077.

⁸35 Cyc., 1074.

⁹13 C. J., 279.

¹⁰35 Cyc., 941.

¹¹17 C. J., 933.

¹²17 C. J., 958.

¹³The Teacher's Contract and Other Legal Phases of Teacher Status, Teachers College Contributions to Education, No. 246, p. 88.

¹⁴School Laws, 1925, Sec. 163, p. 107.

¹⁵General Laws relating to Department of Education with Amendments to 1925, Sec. 1210, p. 20.

¹⁶School Laws, 1927, Sec. 86, p. 24.

¹⁷Notes on the State Form for Teacher's Contract.

¹⁸Op. cit. 160-1.

A Suggested Code for Schoolroom Ventilation

No phase of school construction and equipment, and no element of schoolhouse sanitation and hygiene, has been in a more uncertain state, and has been the cause of greater controversy than schoolroom ventilation. The theory of ventilation has lacked almost entirely those elements of scientific thinking which have given other phases of school hygiene specific direction and effectiveness. The practice has ranged from absolute absence of ventilation to elaborate systems of centralized air washing, warming, ozonizing, and distribution through blowers and ducts. From the last-mentioned complication of expensive devices and mechanical means, we are now apparently on the way to return to the open window as the sole — and be it said unsatisfactory — means of providing fresh air.

The difficulty is that there is no agreement on the basic meaning of the terms of "good air" and "bad air," or "fresh air"; there is no acceptance of a definite means of measuring "bad air" so called; and there is not much objective evidence of the effect of "good" or "bad" air upon the occupants of rooms. A good deal of the difficulty has arisen from the fact that manufacturers of ventilating apparatus have been more bent upon selling their goods than upon providing healthful air conditions. Professional ventilating engineers have approached the problem from the standpoint of engineering practice rather than hygiene. Hygienists have shown themselves impotent in setting up basically sound theories and utterly impractical in their requirements. They have demanded conditions and means of improving ventilation which are uncertain, uneconomical, and unsatisfactory.

All in all, the only purpose of ventilation has been largely forgotten. Ventilation as such is only a means of providing healthful conditions in schools so that the education of children may be promoted and their healthful growth advanced. All other considerations have no place in the economy of a school system.

A Manufacturer's Conception

It is interesting that the opinions of manufacturers on school-ventilating practice have been questioned by school authorities, and by professional engineers as well as hygienists, because it is believed that a manufacturer necessarily cannot think straight concerning the underlying theory of ventilation, but is necessarily prejudiced in everything he thinks and says by the possibility of selling his product and of making a profit thereon. In this connection, it is rather notable that a manufacturer of ventilating apparatus has had the courage to organize his ideas on schoolroom ventilation, and to present these for consideration on their face value. Mr. Herman W. Nelson, of Moline, Ill., in a recent pamphlet entitled *School-Ventilating Practice*, has tried to make a perfectly frank and honest statement of his belief concerning ventilation, outlining the history of ventilation, and suggesting the reasons for his present belief on the basis of his own studies and the studies of all authorities with whom he has been able to get in contact.

Mr. Nelson holds that the human system requires air for the purpose of combustion in the lungs and for the equally important purpose of cooling, or warming, the body by contact with the skin. The air must be reasonably pure as to its chemical content; it must be free from organic matter; its physical characteristics, namely, temperature, motion, and moisture content, must be adapted to contribute to health and comfort.

In the light of all available investigations, the difficult problem in the ventilation of school-

rooms is: first, to supply sufficient artificial heat to maintain body comfort when the weather conditions demand it; second, to remove body heat from pupils and teachers when it becomes excessive and produces discomfort; third, to accomplish all of this at all times, without subjecting the occupants to cold or to severe drafts.

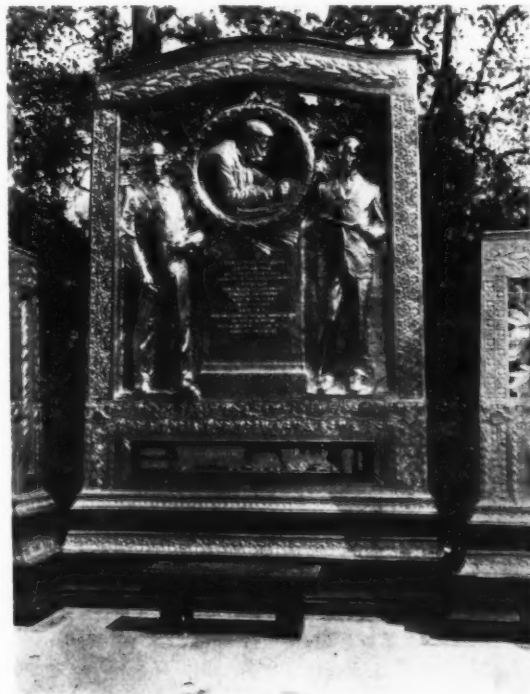
Mr. Nelson holds that ordinarily the chemical characteristics of air need not be considered in providing healthful conditions in the schoolroom. The amount of oxygen removed from the air by the breathing of the pupils is not sufficient to require the introduction of new oxygen. A certain amount of natural air flow into the room is sufficient to keep down any possible harmful condition.

The problem of bacteria, too, is not a major difficulty that need worry the school hygienist, because fresh air is generally accepted to be the deadliest enemy of bacteria. Dust is an irritant and, to a certain extent, a carrier of bacteria, and is distinctly a problem in school ventilation. Odors are disagreeable, in themselves not harmful, but their removal is a distinct problem of ventilation.

Overheating of classroom air during milder and even comparatively cold weather is a genuine problem for school ventilation. To a lesser degree, excessive dryness contributes to discomfort, but this difficulty is more readily controlled when overheating is avoided. With all of the foregoing conditions in mind, Mr. Nelson proposes seven distinct objectives for which the heating and ventilating plans of school buildings should be designed:

Objectives of Ventilation and Heating

1. That sufficient artificial heating capacity be provided to maintain a comfortable indoor temperature in all occupied areas during the lowest outdoor temperatures prevailing in the particular locality.



THE WESTINGHOUSE MEMORIAL

The cover of this issue of the JOURNAL contains the centerpiece of the Westinghouse Memorial dedicated October 6 at Schenley Park, Pittsburgh, Pa. The figure is representative of American youth and is a sculptural triumph of Daniel Chester French.

The entire Memorial, of which a portion is shown in the above cut, was erected by the Westinghouse Memorial Association in honor of the memory and of the inventions of the late George Westinghouse, whose notable achievements include such contributions to industrial life as the air brake, the modern railway signal systems, the steam turbine, and the founding of one of the great groups of electrical industries.

2. That mechanical, positive, and controllable means be provided for continuously circulating the air in the rooms so as to effect an even distribution for the maintenance of uniform atmospheric conditions.

3. That all artificial heating elements, or surfaces, within the room to be warmed and ventilated, may be easily and conveniently controlled, or protected, so as to quickly and effectively stop the supply of artificial heat when required room temperatures are reached.

4. That, if, after all artificial heat supply has been stopped and the temperature than continues to rise due to the body heat given off by the occupants, the effect of sunshine or heat from other uncontrollable sources, controllable, mechanical means be provided for easily and immediately admitting cooler outdoor air (in such a manner as to avoid drafts) to diminish overheating and odors.

5. That, when the air is recirculated within the room or is brought in from out of doors for cooling, provision be had for properly filtering or cleaning such air to effect the removal of dust and such organic matters as it may carry.

6. That, in order to compensate for a normal variation of humidity, where automatic temperature regulation is provided, thermostats be arranged so that they may be adjusted over a range of 5 degrees. That, where manual operation of temperature regulation is employed, full and clear instructions be posted in each classroom so that the range of dry-bulb temperature may be lowered or increased within a range of 5 degrees for compensating for a lesser or greater degree of humidity found in the room.

7. That, in order to prevent extreme dryness of atmosphere and to maintain satisfactory effective temperatures, considering the relationship between temperature, moisture, and air motion, means be provided whereby moisture may be readily admitted to the occupied room and thoroughly distributed therein.

Carrying the Proposals Into Effect

As a means of carrying his proposals into effect, Mr. Nelson has prepared an outline for a heating and ventilating code which, in his belief, will do much to provide safe, economical, and effective ventilation in school buildings. Many of the existing codes of state and local ventilating practice are based on theories which have been discarded for many years. Mr. Nelson proposes an outline for a model code which, in his opinion, involves all of the present principles of heating and ventilating practice for schools, which are based on sound theory and are within the possibilities of good practice. The code is as follows:

SUGGESTIVE CODE

Article I

1. Except as noted, this law applies to all new buildings and additions hereafter erected within the jurisdiction of this state and used for the purpose of educating children under 18 years of age and to all remodeled existing buildings of this character.

2. All buildings and improvements affected by this law shall be constructed in accordance with plans and specifications to and approved by the department of . . .

3. The department of . . . is given the right to waive such of the following regulations as they may deem impractical in approving plans for portable schools, temporary structures, and remodeled buildings.

4. It is the purpose of this act to establish a code of minimum requirements in the heating and ventilating of school buildings and it is necessary to define these requirements with reference to present practice. Nothing in the specific language of this act, however, shall be construed as an estoppel on improved means, methods, or materials, provided the latter carry out the true intent and purpose of the law and shall have been approved as herein provided for. The determination of equivalence or improvements shall rest solely with the duly authorized person or persons charged with the execution of this act, and no means, methods, or materials which are not within the specific language of the act shall be deemed equivalent, unless they shall

(Continued on Page 110)

THE AMERICAN School Board Journal

EDITORS:



WM. GEO. BRUCE

WM. C. BRUCE

Proponents of Progressive School Legislation

THE fall elections in the several states have brought new faces and forces into their respective legislative bodies. In some states these elections have been carefully watched by the educators, and candidates for legislative honors have in instances been sounded out as to their position on this, that, or the other school question, with a view of influencing their future attitude.

It is perhaps too early to predict the general trend of proposed school legislation, but it is at least quite certain that the subject of school finance will receive special consideration in many states. The adjustments which come under this heading and which will be urged are by no means few or simple.

The laws dealing with the matter of school support, namely, the distribution of state funds designed to place the poorer districts on a par with the better situated districts, are by no means complete. The basis for an equitable apportionment has not in every instance been found. Allied to the subject of school support is that of the unit of administration. The two cannot well be separated. The larger unit is presumed to care for the smaller, not only so far as professional service is concerned, but also from the standpoint of financial support.

The views on the subject of a change from a district to a county unit have by no means been crystallized into a common understanding. The citizen who under the direct system has been in close touch with the schools, does not surrender them to a county unit without protest. The legislation thus far obtained in uniting school districts, by eliminating the one-room school and securing the consolidated schoolhouse, or in passing from a district to a county system of school administration, has not been achieved without considerable effort.

The proposals for new school laws and the amending of old laws originate, in the main, with state educational departments and state teachers' associations. The alert state school official notes the deficiencies which might lend themselves to legal correction. He is in a favorable position to advise legislative bodies in the making of new laws. The associations, through their legislative committees, are, as a rule, well informed as to the needs confronting the school situation of the state.

The educators who have in recent years concerned themselves with the subject of school legislation have approached their task with increasing efficiency. They have not only made their proposals for adequate school support with convincing force but have, in instances, been able to get at the very root of the entire problem, namely, to the subject of taxation.

State school officials and legislative committees of educational organizations have become more clear as to the fundamentals involved in the subject. When the legislator is asked to favor measures for a more general school support, his best defense lies in the counter question: "Where shall we get the money?"

This reduces the question to the manner and means of securing an adequate tax yield. To merely hold that the tax rate must be increased does not always meet the situation. The reaction here is that the tax burden placed upon property is already too heavy and will not bear additions. A better approach is that "a strict and impartial enforcement of assessment and taxation laws and, if necessary, the enactment of laws providing more stringent penalties for evading such assessments and escaping such taxes as are provided by law."

This expresses the attitude taken by the Illinois State Teachers' Association. But that organization goes one step deeper into the heart of the issue when it says:

"A system of corporation and income taxes designed to yield to Illinois revenues commensurate with those received from similar sources in other important industrial states; but care should be taken not to insert in a bill providing for an income tax any provision for property tax offsets that may make the provisions of such bill unconstitutional, or inequitable in relation to the sources of incomes.

"Definite provision for a more liberal support of our public schools by apportioning to them a portion of our increasing state revenues realized from sources other than property taxes and in addition to those taxes."

It has become clearly evident that the educators of this country who are concerning themselves with the subject of state school legislation must familiarize themselves not only with all that makes for an adequate school support, but also with modern methods of taxation. They must be able to tell the legislator how an equitable and adequate system for raising public revenue can and must be established in order to keep popular education upon a high plane of efficiency and service.

Exacting Pledges from School-Board Candidates

IT is not often that the public exacts pledges from its candidates in a board-of-education campaign. In fact, there are instances on record where the questions submitted to candidates by individual citizens and societies have been deemed improper, in that they cast a reflection, or at least some doubt, upon the character and ability of those to whom they were addressed.

We can imagine, however, that a situation may arise in a community where at least a platform, or certain articles of faith, advanced by candidates, may be deemed to be quite in order. Sometimes individual candidates appear before popular audiences and make known their beliefs on the subject of popular education. Sometimes groups of citizenships raise a banner on which they display the qualifications that must go with a school-board membership.

To assert general principles and policies to be applied to school government, which in the judgment of an organized group of citizens ought to prevail, is not entirely out of order. In fact, candidates may welcome the conception which the public has regarding the management of its schools.

When the city of Indianapolis, Indiana, last November, engaged in a school-board campaign, a citizens' committee formulated a set of pledges which were generally accepted as being both timely and pertinent to the issue in hand. While the situation in that city was somewhat unusual and exceptional, it nevertheless remains that the "articles of faith" here promulgated may apply in a greater or lesser degree, to other communities. They read as follows:

"Believing that the children, parents, and taxpayers of the city of Indianapolis deserve the best possible administration of school affairs, we, the undersigned candidates, nominated through the efforts of the citizens' school committee, hereby pledge ourselves, if elected, as follows:

"1. To refrain from becoming interested, either directly or indirectly, in any contract with or claim against the school city of Indianapolis, and not be influenced by any consideration of politics or religion, or anything except merit and fitness in the appointment of officers and the engagement of employees.

"2. To secure high-class executives in the educational, business, and buildings-and-grounds departments, to the end that our schools be restored to their former high professional standards, that the business of the school city be conducted efficiently, and that its buildings and grounds be made both sufficient in number and adequate in design and equipment to the needs of the school children of the city.

"3. To insist upon and obtain from all subordinates strict accounting for all money laid out and expended, to the end that every dollar of taxpayers' money shall bring a dollar's worth of value and benefit to the school children of the city of Indianapolis.

"4. To exclude all elements of personal favoritism in the educational department, the business office, and the buildings-and-grounds department.

"5. To keep the city school system free of nepotism.

"To these ends we pledge our time, our thoughts, our ability, and our integrity."

In the light of the troubles which have afflicted the Indianapolis school system in the past, the citizenship was prompted to lay down, in the form of a pledge, a definite course of procedure. It contemplates the elimination of the specific evils that had asserted themselves in the administration of the public-school system.

Where a wholesome community sentiment is already reflected in the local administration of the schools, pledges and promises as to school administrative principles and policies become superfluous, but where the situation demands an awakening, the voice of caution and precaution must be heard. The public mind must be fully informed on the issue in hand if an intelligent reaction is to be invited.

Effect of Unemployment Upon School Administration

IN scanning the school news of the country one soon learns that the industrial depression and attending unemployment is reflected in board-of-education deliberation. The first manifestation is the tendency toward greater exclusiveness. Home talent and local labor receives preference.

School boards here and there have ruled that only legal residents are eligible for employment in the school system. Thus, the outsider is banned. In a number of instances, school-building contracts provide that wherever possible, local labor must be employed. Special appropriations have been made to give employment in the way of repairwork and the like. Only in a few instances have the professional forces been reduced. The tendency in the larger cities is to increase rather than to reduce these forces.

These departures are in line with community self-interest, and from that standpoint probably ought not to be criticized. When it is remembered, however, that the American spirit primarily fosters unity, maintains no tariff walls between state and state, cultivates a neighborly attitude between town and town, and seeks to establish friendly relations between city and county, these discriminatory acts are not so attractive. But, as a prominent school administrator put it: "We are confronted with a condition and not a theory."

Happily, periods of depression are followed by periods of prosperity. The country is rich in natural resources, gifted with energy and enterprise, and blessed with the faculty of quick recovery from economic ailments. On the whole, the school administrators of the country have not been disturbed by the industrial variations, realizing that the task of the school is ever before them. The nation's population is growing at a rapid pace. The rising generation must be trained to meet the obligations of citizenship, which means a readiness to brave depressions and to utilize the seasons of prosperity. Thus, schoolhouses must be built, teachers must be employed, supplies and equipment must be purchased, and the machinery of popular education must continue. The schools must go on.

Board-Of-Education Rules and Regulations

THE modern board of education usually subjects itself to fixed rules in the conduct of its business. It does this not only to establish certain principles and policies, but mainly to give momentum and guidance to its deliberations. It must define its own scope and function before it can determine the extent of its authority within the school system.

The board of education is not only expected to guide its own deliberations within prescribed lines, but also to bring all the agencies of the school system under definite control through the medium of rules and regulations.

The research division of the National Education Association recently delved into the subject of rules and regulations governing school systems as applied to cities over 30,000 in population, and through a questionnaire ascertained that they covered 29 topics as follows: (1) board of education, (2) secretary to the board, (3) treasurer to the board, (4) attorney to the board, (5) superintendent of schools, (6) assistant or associate superintendents, (7) business manager or assistant superintendent in charge of business affairs, (8) superintendent of buildings and grounds, (9) supervisors, (10) directors, (11) director of research, (12) heads of departments, (13) attendance officers, (14) clerks, (15) principals, (16) assistant or vice-principals, (17) teachers, (18) substitute teachers, (19) pupils, (20) superintendent of engineers and janitors, (21) engineers and janitors, (22) director of health or chief medical inspector, (23) physicians and medical inspectors, (24) nurses, (25) dentists, (26) health and medical regulations, (27) school calendar, (28) community use of buildings, and (29) interschool relationships.

The study covers some 95 cities and deals with the general scope of rules and regulations and the form of publication most popularly employed by the school authorities. Most of them are printed in booklets of 6 by 9 inches, and many of them in sizes of 4 by 7 inches. The characteristics of a well-organized set of rules and regulations are enumerated as follows:

1. Rules should be guiding principles rather than collections of detailed instructions.
2. Lines of authority and other relationships should be clearly set forth.
3. Important duties should be definitely allocated.
4. The major responsibilities of officials and groups of individuals should be stated.
5. Rules should be consistent with existing school laws.

Do High-School Auditoriums Pay?

AN occasional newspaper item brings to light the fact that there is a difference of opinion between the citizenship and the board of education as to the manner in which a high-school auditorium should be managed. There are those who contend that such institutions should be run for profit, while others hold that the use of an auditorium should be free to all citizens for any and all functions.

A high-school auditorium is primarily designed to serve the students for assembly purposes. Its use by the general public for social, literary, and other purposes becomes a secondary consideration. Whether a rental charge shall here be exacted is entirely optional with the school authorities.

In many communities the high-school auditorium has become the most popular meeting hall, and a positive rival to the fraternity and other halls where a rental charge is exacted. In some of these communities the boards of education have been in the center of opposing viewpoints as to the disposition of the high-school auditorium. A low rental charge is considered an unwarranted competition to the other public halls, while a high rental charge is considered an extortion.

In the greater number of instances the boards of education have assumed that a high-school auditorium is public property and as such the public has the right to use it. The cost for such use is usually nominal and based upon the actual cost involved. This means, of course, light, heat, and janitor service.

The demand that a high-school auditorium should be conducted upon a profit-making basis is untenable. While it plays an important part in the organization and operation of the school, it may also render a service to the general public in civic, social, and educational gatherings. The big profit which such an institution earns cannot be measured in dollars and cents, but must be found in the service which it renders to the community. The high-school auditorium is one of the community's finest assets which at all times pays a liberal dividend.

Some Factors in Choice of School-Board Members

IN both the elective and appointive method of creating boards of education the tendency is to recognize representation at large rather than representation by wards or districts. While many communities elect their representatives of the local board of education on the district plan, the members so chosen soon realize that the spirit of rivalry rather than coöperation is engendered thereby.

The question has recently arisen in Baltimore in a somewhat graphic way. The mayor, who appoints the members of the board of education, has been urged by one of the councilmen to appoint a member from the northeast section of the city. The editor of the *Baltimore Post*, in discussing the subject, says:

"In the first place, there should be but one consideration in selecting members for this board. That consideration should be ability. The location of one's residence should not be considered, for it is irrelevant. Any man or woman who is fitted by ability to serve on the school board is too big a person to be biased for or against any section of the city.

"Furthermore, the introduction of any such considerations will inevitably lead to serious troubles. If representation is to be given to groups why pick these groups by geography alone? Are not religious groups, racial groups, social groups, even political groups, entitled to as much consideration as geographical groups? The possibilities are unlimited, and exceedingly dangerous."

The position here taken is eminently sound. No member of a board of education can consistently hold that he exclusively represents this or that section of the community, or any special group of people living therein. He must represent the interests of an entire community. Character and fitness alone must determine his selection.

Drastic Decline in School-Bond Interest Rates

Harold F. Clark, Ph. D., New York City

The National City Bank of New York, in its October Bulletin, has the following comment to make regarding the bond market: "The impressive action of the bond market during September leaves little room for doubt that a genuine bull market in fixed investments is now well under way. High-grade domestic issues have been the chief beneficiaries of a demand that has seemed insatiable." This is high authority supporting the opinion that even lower interest rates are in store for school bonds. The decline in interest rates during the

cline in long-term rates. One school district in the United States sold short-term school notes on a basis of 2.29 per cent. When we remember that only a year ago interest rates were 6, 7, and even 8 per cent on short-term loans, we get some indications of the change which has occurred. Many times during the past year we have advised the issuing of short-term notes rather than paying the high interest rates necessary on long-term bonds. To all school districts which followed that advice, we would suggest that the time is near when those

Table IV shows the continued decline in interest rates on long-term Federal bonds. The next financing of the Federal Government, in the opinion of many confident observers, will bring the best prices and the lowest yields for a long time.

Table V indicates the drastic decline that has occurred in the price of stocks. After reaching a high point in April the stocks have declined, with one or two rallies, to a new low point in October. This decline, among other things, has released a large amount of money formerly tied up in loans on stock-exchange collateral. This has had some influence on easy money rates. It is a factor that tends to make for lower interest rates on bonds and will well repay watching for that reason. The average price of bonds, as shown in Table V, crossed 100, for the first time, during the month of October.

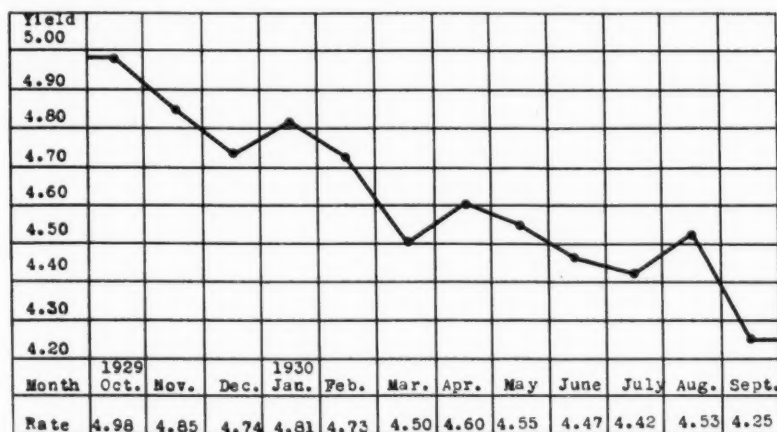


TABLE I. AVERAGE YIELD OF ALL SCHOOL BONDS SOLD DURING THE MONTH

month of September was the most drastic that has been witnessed in a long time. The net interest rate of all the school bonds sold during the month of September was 4.25 per cent. With the exception of three months in the early part of 1928, this is the lowest level that school bonds have reached since the war. In other words, school-bond interest rates are beginning to be really low. A drop half as large as during the past month would take school-bond interest rates well below any point they have reached since the war days. This means the saving of many millions of dollars to school districts in the issuing of the bonds.

notes could well be replaced by long-term bonds. The school districts which followed this procedure should have saved very large sums of money.

TABLE IV. Average Yield of Long-Term Federal Government Bonds¹

Month	Rate	Year	Rate %
1930			
Oct.	3.31*		
Sept.	3.33	1928	3.437
Aug.	3.37	1927	3.464
July	3.37	1926	3.544
June	3.37	1925	3.797
May	3.41	1924	4.010
April	3.46	1923	4.298
March	3.40	1922	4.301
Feb.	3.50		
Jan.	3.51		
1929			
Dec.	3.46		
Nov.	3.45		

¹Taken from Federal Reserve Bulletin.
*Not final.

A large number of school districts sold bonds during the past month on a net interest basis of less than 4 per cent. One school-bond issue was sold on the net interest basis of 3.67 per cent. At this rate it will not be long before some districts will sell bonds for less than 3.50. When this happens, bonds may be considered to have reached a low level even from the long-term standpoint. One of

TABLE V. Security Prices and Yields¹
Average Price of 406 Stocks (1926 Average = 100) Average Price of 60 Bonds Average Yield on 60 High-Grade Bonds

Date	Average Price of 406 Stocks (1926 Average = 100)	Average Price of 60 Bonds	Average Yield on 60 High-Grade Bonds
1930			
Oct.	135.4*	100.6*	4.37*
Sept.	148.8*	99.9*	4.31*
Aug.	147.6	99.6	4.43
July	149.3	98.7	4.49
June	152.8	98.2	4.53
May	170.5	97.9	4.54
April	181.0	97.9	4.54
March	172.4	97.8	4.55
Feb.	166.5	96.4	4.65
Jan.	156.3	96.5	4.64
1929			
Dec.	153.8	96.5	4.64
Nov.	151.1	95.7	4.70

¹As reported by Standard Statistics Company, Inc. Used by special permission.
*Not final.

the large bond houses in New York, commenting on the situation the first week in October, said: "Bonds are rapidly approaching the 1928 peak which represented the highest price in the past twenty years." Barring some unforeseen incident, there is no reason why, during the next 60 days, bond interest rates should not reach a lower level than they have reached during the past twenty years.

TABLE VI. Revised Index Number of Wholesale Price (United States Bureau of Labor Statistics. 1926 = 100)

Month	All commodities	Building Materials	Year	All commodities	Building Materials
1930					
Oct.	82.7*	86.8*			
Sept.	83.2*	87.1*	1928	97.7	93.7
Aug.	84.0	87.4	1927	95.4	93.3
July	84.0	88.9	1926	100.0	100.0
June	86.8	90.0	1925	103.5	101.7
May	89.1	92.9	1924	98.1	102.3
April	90.7	94.7	1923	100.6	108.7
March	90.8	95.4			
Feb.	92.1	95.7			
Jan.	93.4	96.2			
1929					
Dec.	94.2	96.2			
Nov.	94.4	96.0			

*Not final.

Table VI presents information of striking importance to anyone interested in issuing bonds to construct buildings. In November, 1929, the price of all commodities was 94.4. In October, 1930, this has declined to 82.7. Building materials have shown almost as great a decline. It should cost appreciably less to construct a school building now than it did a year ago. Schoolmen will profit greatly by watching indexes of building materials and all commodities in relation to indexes of bond prices.

TEACHERS' INCREASES TO CONTINUE?

The Benesch resolution introduced in the Cleveland board of education, providing that the automatic increases in teachers' salaries begun ten years ago be suspended, was deferred. The *Cleveland Plain Dealer* says: "There is plenty of time for the board to undertake a careful study of its pay system. If it finds the Cleveland rate is out of line with that of other cities, if it is convinced that the present scale should be changed, action to that end may then be taken. Meanwhile the board will stick to the policy devised as an inducement to persuade better teachers to enter its service."

COUNTY UNIT OF SCHOOL ADMINISTRATION

In the State of Indiana the consolidation of school districts and the expediency of the county unit is occasionally receiving attention at the hands of the public press. The *New Castle Times* in a recent issue provides a practical illustration as follows: "In Henry county we have townships along the southern border that get the benefit of taxes from great corporations that do not touch other townships. These big corporations in either Franklin or Wayne townships have a greater taxing value than all the property of every kind in Stony Creek township. Harrison and Greensboro townships get very little benefit of the \$10,000,000 worth of utility property in Henry county. As a consequence school-tax levies in Harrison, Greensboro and Stony Creek townships are higher than all kinds of township tax levies in Wayne or Franklin townships. For instance, Wayne township had in 1929 a total tax levy for schools of 36 cents and Franklin had 63 cents. But Harrison had \$1.10, Greensboro \$1.57 and Stony Creek had \$1.90 for school purposes alone."

"It is apparent at once that if all the property in the thirteen townships were joined together for school tax purposes and the money allotted on the basis of number of school children that the school taxes would be an equal burden on all."

TABLE II. Amount and Yield of Bond Issues

1. School bonds during the month ¹ of September	\$ 14,117,400
2. All municipal securities sold during the year (to date)	1,842,000,000
3. All school bonds outstanding (estimated)	3,270,000,000
4. Average yield of all school bonds outstanding (estimated)	4.65%
5. Yield of school bonds of ten large cities	4.30%
6. Yield of United States long-term bonds	3.21%

¹The monthly total of school bonds does not include all the bonds issued in the month, due to the difficulty of obtaining the yield on some of the issues.

The school boards that have been refraining from issuing bonds because of high interest rates may well proceed with their plans. Although there are strong reasons for thinking interest rates will go even lower, they have already reached a level that school boards will be justified in looking forward to bond issues with the assurance that they could be sold on terms entirely reasonable.

The decline in short-term interest rates, in some ways, has been even more sensational than the de-

TABLE III. Bond Sales and Rates¹
All Public and Private

Year	School	Municipal	Private	Year	Municipal
1929	230*	1,432*	10,194*	1929	4.67*
1928	218	1,414	8,050	1928	4.45
1927	266	1,509	7,776	1927	4.49
1926	260	1,365	6,344	1926	4.61
1925	323	1,399	6,223	1925	4.58
1924	288	1,398	5,593	1924	4.26
1923	206	1,063	4,303	1923	4.76
1922	237	1,101	4,313	1922	4.81
1921	215	1,208	3,576	1921	5.18
1920	130	683	3,634	1920	5.12
1919	103	691	3,588	1919	5.04
1918	41	296	14,368	1918	4.90
1917	60	451	9,984	1917	4.58
1916	70	457	5,032	1916	4.18
1915	81	498	5,275	1915	4.58
1914	42	320	2,400	1914	4.38

¹By special permission based upon sales reported by the Commercial and Financial Chronicle.

*Not final.

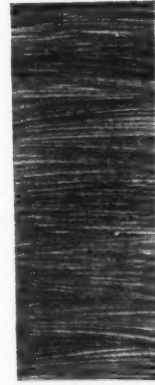
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Roddis construction consists of— 1— A core of softwood blocks cement glued into one unit under hydraulic pressure, and thoroughly dried. 2— A $\frac{3}{4}$ " hardwood edgestrip completely around the core: top, bottom and both side edges. 3— A $\frac{1}{16}$ " hardwood cross-



band veneer on both sides, glued to core and thoroughly dried. 4— A $\frac{1}{16}$ " hardwood surface veneer on both sides cemented over cross-band veneer under hydraulic pressure, and thoroughly dried: a 5-ply completely solid, everlastingly enduring door.



The Most Scientifically Correct School Door



RODDIS
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ON THE EDGE
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Roddis detail of construction and thoroughness of manufacture are an engineering exactness, from the log to the delivered door.

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Write now for the Roddis Catalog: replete with door pictures and schools equipped with Roddis Flush Doors; giving other door data worth having.



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School Buildings,
Equipped With Roddis
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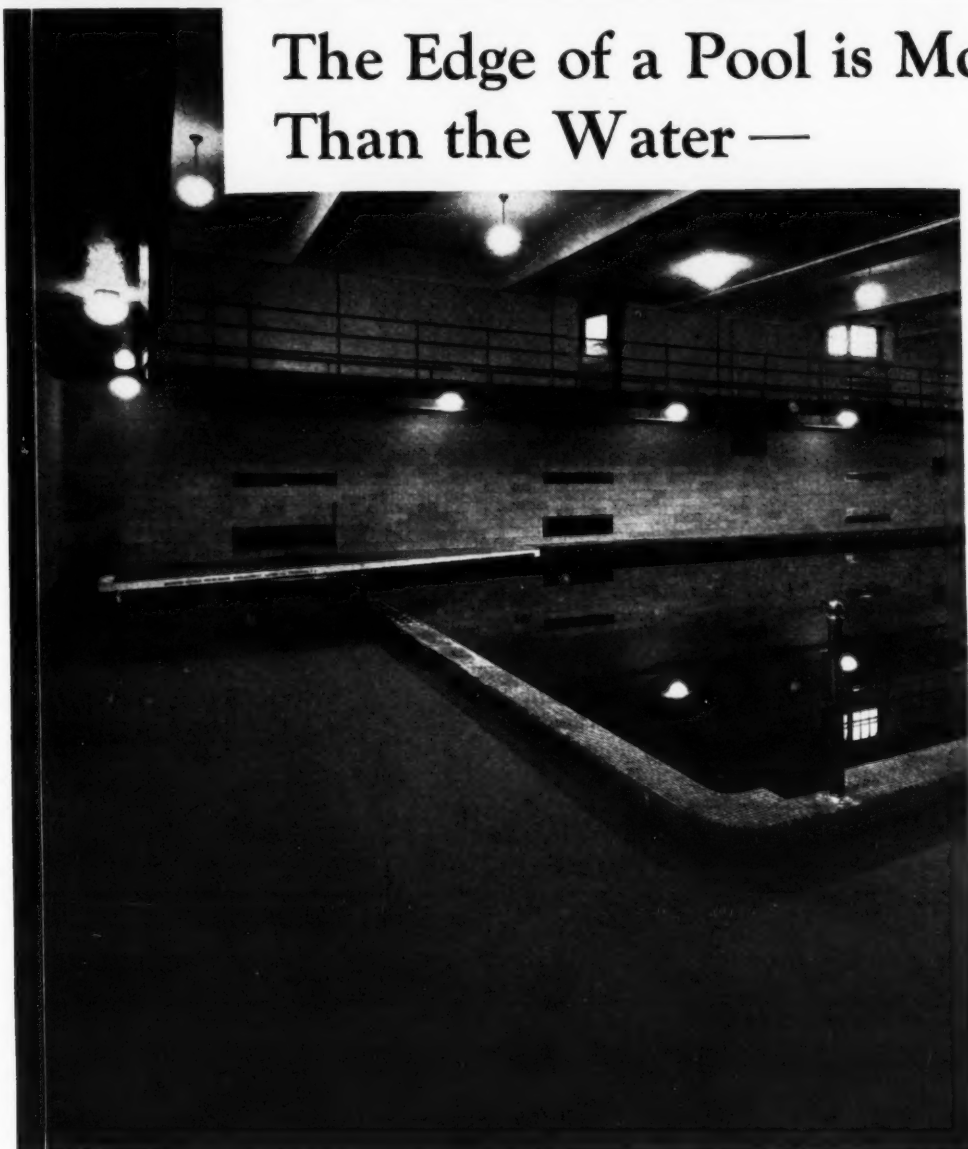
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The Edge of a Pool is More Dangerous Than the Water —

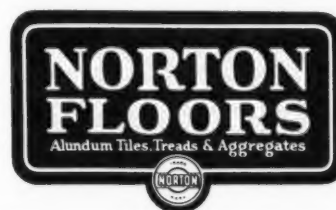


Unless Curb and Floor Are Non-Slip When Wet

SERIOUS falls on slippery floors and curbs are not infrequent — especially in school natatoriums where there is much running and playing. For many tiles do not give adequate protection—they are dangerous when wet. Alundum tiles, however, are just as non-slip when wet as dry. They give a safe, sure footing that is truly permanent.

The floor around the pool illustrated and in the accompanying showers is Alundum Ceramic Mosaics, $1\frac{1}{16}$ x $2\frac{1}{4}$ " salmon, in a basket weave pattern. The pool curb is green Alundum Mosaics.

NORTON COMPANY, WORCESTER, MASS.
T-274



School-Law Notes

Schools and School Districts

Although the procedure for the detachment of territory from the school district is arbitrary, no constitutional rights are thereby invaded or involved (Wis. statutes of 1929, § 40.85, subds. 1, 4-6).—State v. Deneen, 231 Northwestern reporter 174, Wis.

The legislature has very broad powers respecting the regulation of school districts, and the exercise of such powers, in respect to the detachment of territory from a school district, cannot be defeated by a school authority upon mere equitable grounds.—State v. Deneen, 231 Northwestern reporter 174, Wis.

School-District Government

Where persons elected as school directors failed to qualify by taking and filing an oath of office within the statutory time, a vacancy existed in the board.—Ashby v. Patrick, 28 Southwestern reporter (2d) 55, Ark.

The treasurer of a school district who selects a depository in good faith is not liable for a loss caused by the failure of the depository bank (S. Dak. laws of 1921, c. 335).—Benton School Dist. No. 26 of Spink County v. Woodard, 231 Northwestern reporter 288, S. Dak.

The treasurer of a school district was liable for the loss of money by a school district through the failure of a depository bank, where the treasurer was the bank's officer and knew of the insolvency.—Benton School Dist. No. 26 of Spink County v. Woodard, 231 Northwestern reporter 288, S. Dak.

The acceptance by the successor in the office of treasurer of a school district of certificates of deposit issued by a defunct bank did not constitute the payment of the amount represented by such certificates.—Benton School Dist. No. 26 of

Spink County v. Woodard, 231 Northwestern reporter 288, S. Dak.

School-District Taxation

Where a school-bond election carries, and the amount voted is within the constitutional limitation, the board of education need not expend the entire sum, but may provide a smaller building (Ky. constitution, § 158).—Boll v. City of Ludlow, 29 Southwestern reporter (2d) 547, Ky.

A newspaper notice of an election on a tax levy for a consolidated school district, which was signed in the name of the county board only, without the signatures of the chairman and secretary, did not invalidate the election (Ky. statutes, § 4426—2).—Layson v. Nicholas County Board of Education, 29 Southwestern reporter (2d) 626, Ky.

A consolidated school district's election was held not to be invalid by the fact that posters giving the notice were small, and the type thereon was inconspicuous (Ky. statutes, § 4426—2).—Layson v. Nicholas County Board of Education, 29 Southwestern reporter (2d) 626, Ky.

The minutes of a meeting of the board of education, at which an election was called, were held sufficient, even though the recording of the minutes followed the election (Ky. statutes, § 4426—2).—Layson v. Nicholas County Board of Education, 29 Southwestern reporter (2d) 626, Ky.

A notice of an election on a proposition for a tax levy in a consolidated school district need not state the amount of money to be raised (Ky. statutes, §§ 4426—2, 4458).—Layson v. Nicholas County Board of Education, 29 Southwestern reporter (2d) 626, Ky.

Pupils and Conduct of Schools

A parent advising a child to violate a rule of the school, if reasonable, may be proceeded against

under the penal provisions of the compulsory-education law, unless the child is placed in a private school (Tex. penal code of 1925, art. 299).—Bishop v. Houston Independent School Dist., 29 Southwestern reporter (2d) 312, Tex. Com. App.

School Lands and Funds

The parent of a pupil cannot invoke the aid of an equity against an unreasonable rule by the school trustees, until he has first exhausted the remedy before school authorities.—Bishop v. Houston Independent School Dist., 29 Southwestern reporter (2d), 312, Tex. Com. App.

TEXTBOOK ROYALTIES CALLED LEGAL

The New York City school officials have defended the practice of writing textbooks for use in the city schools, holding that a provision of the city charter specifically permits them to accept royalties for books sold to the board of education. The statement followed the publication recently of a "discovery" that seventy teachers, principals, and superintendents of the school system were authors of textbooks on the approved list.

Dr. William J. O'Shea, superintendent of schools, and himself an author of a number of textbooks, pointed out that the city charter not only does not forbid, but specifically permits school officials to accept royalties on their textbooks. He ridiculed the idea that principals were forced to patronize the books of certain authors, pointing out that the size of the approved list and the diversified patronage made this impossible.

Dr. O'Shea added that there is nothing secret about his authorship of textbooks. Teachers and superintendents, he said, through acquaintance with the needs of their pupils are best qualified to write books for local use.

LAW AND LEGISLATION

Three members of the school board of Lyons village, Ill., have refused since last April to attend meetings of the board when John W. Costello, superintendent of schools, was forced to resign. They have been called into court to explain their absence. The suit was started by George Masek, a member of the board.



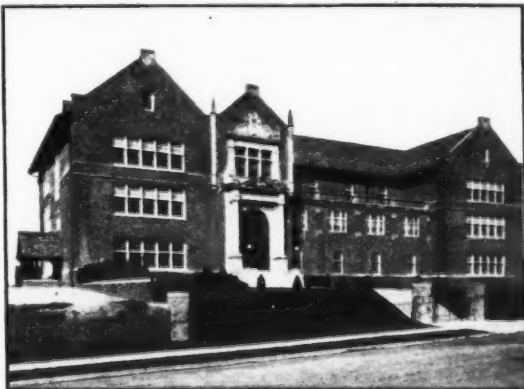
THE ST. LOUIS BOARD OF EDUCATION HAS IDEAS OF ITS OWN—



Kindergarten, Shenandoah School, St. Louis, Missouri. Architect for Board of Education: R. M. Milligan; Bonded Floors Contractor: Stix, Baer & Fuller Co., St. Louis, Missouri.



Shenandoah School, St. Louis, Mo.



Lindenwood School, St. Louis, Mo.



Festus Wade School, St. Louis, Mo.



Kennard School, St. Louis, Mo.

AND one of these ideas dates back to the World's Fair of 1904. When the great exposition closed down, a floor of cork carpet was removed from one of the buildings and installed in the offices of the Board of Education. This floor was in continuous service under heavy traffic conditions, from 1904 until 1928!

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Fuel Saving for Schools

New York State Points to Easily Attained Economies

In a state-wide inquiry conducted recently by Mr. Joseph H. Hixson, of the New York State Department of Education, three important questions are asked:

Have we a satisfactory heating and ventilating plant in our school?

Is it being operated in an economical manner?

Are we getting desirable results at a minimum cost?

The importance of these questions may be understood when it is said that more than one fourth of the cost of school-plant operation in the northern states is for fuel, and that wide variations exist in the cost of heating school buildings of similar size and equipment in the same community.

In the course of the report on his study, Mr. Hixson points out that in New York state, school boards have made a saving of as high as 50 per cent of the original school fuel cost by (a) carefully conditioning their heating and ventilating apparatus, (b) conditioning their buildings to prevent heat losses, (c) introducing fuel-saving devices, and (d) using the best engineering skill to adapt the fuel to the heating apparatus in the respective school buildings.

Practically every school board in the United States can make important economies in the cost of fuel by a careful study of the heating plant and comparative fuel costs. Among the methods available, Mr. Hixson points out a number in the following paragraphs which are taken from Bulletin 946 of the New York State Education Department. Mr. Hixson writes:

The use of fine coal as a means of reducing fuel costs has passed the experimental stage. Boards of education in rapidly increasing numbers are adopting the use of the finer grades of hard coal to reduce fuel costs in their schools. Large savings have been made as a result of the change from the use of the higher-priced large sizes of hard

coal to the lower-priced small sizes of hard coal. The boards that have made the change and that have secured successful operation with the use of the fine coal are almost without exception enthusiastic in their praise of the practice.

During the past two years boards of education that have changed from the use of the larger to the finer grades of hard coal have been asked to report their experiences to the School Buildings and Grounds Division of the State Education Department. Every report received claims that some saving in fuel costs was made. Most reports claimed savings from 25 to 40 per cent. In a few cases a saving of more than 50 per cent was shown.

Most of those reporting on the use of fine coal claim that the saving shown represents the difference in price between the commercial grades of hard coal at from \$12.30 to \$14.40 a ton and the fine grades at from \$4.92 to \$5.50 a ton¹ less approximately 10 per cent of the difference in cost due to the increased tonnage of fine coal used and less a charge of a few cents a ton for electric current to run the blowers.

Typical Experiences

In reply to our inquiry about fuel-saving practices and devices in use, Superintendent Arvie Eldred of the Troy schools wrote:

"For the past two years we have been giving a good deal of attention to heating and fuel costs in our system. We tried an experiment two years ago, whereby we used buckwheat coal instead of domestic sizes. We installed blowers to give us the necessary draft. The experiment was so successful in the two schools that we tried, that a year ago last summer we installed blowers in seven other schools and the high school. We estimate that in these ten schools we have reduced our fuel costs well over \$10,000. We find that on the average we used about 10 per cent more of buckwheat

¹The maximum range of price reported for each grade of coal.

coal than we did of the domestic-size coal, but even at that we have made a big saving, because our bids for coal this year were \$13.50 for domestic size coal and the bids for buckwheat coal ranged from \$4.94 a ton to \$5.50."

Large savings have been effected in the Schenectady schools by using fine coal. Tulloch M. Townsend, business supervisor of the Schenectady schools, wrote:

"Our experience in burning fine coal has been very gratifying both in regard to the saving of money and the heating of the building. . . . In 1926 we were paying \$13.50 a ton for hard coal and in 1927 the price was \$4.95 a ton for a good grade of buckwheat coal. . . ."

"Our budget of 1926 called for an appropriation of \$80,000 for coal, while the budget for 1928 calls for \$46,000 and I am anticipating that we will not use this total amount. In fact, I do not think our coal bill will run much over \$40,000, which shows a saving of 50 per cent."

To burn the fine grades of hard coal successfully in the heating of school buildings it is best to use some type of blower. It is possible to use a mixture of the larger and finer grades of hard coal under controlled conditions and effect a saving without the use of a blower; but the lack of a liberal supply of oxygen makes it impossible to obtain as good results without the blower as can be had with it in a proper installation.

There are three types of blower installations. The first and most expensive to install is the high-pressure blower with special grates. The second and next lower in first cost, is the low-pressure blower with special grates. The third and cheapest in first cost, is the low-pressure blower with standard grates.

Blower Installations

Malcolm B. Moyer, licensed mechanical engineer of Syracuse, has given the following nontechnical classification of types of blower installations:

1. High-pressure blower (2 to 3-h.p. motor) and plate grates with pinholes or specially constructed tuyeres installed as a unit. The boiler is then unable to operate without the blower.
2. Low-pressure blower ($\frac{1}{2}$ to 1-h.p. motor) with shaker and dumping grates furnished as a unit. Equipment will burn coal

(Continued on Page 70)

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The Wis-Co-Lac Company

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(Continued from Page 68)

on natural draft at a slow rate of combustion without the use of the blower.

3. *Low-pressure blower* with standard 55 per cent air spaced grates, shaking and dumping — those with which the boilers are normally equipped by the boiler manufacturer. This type requires an ash or clinker bed of about 2 in. on top of the grates, to prevent the small-size anthracite coal from falling through into the ash pit.

Which of these three types of blower installation is best? The data that have been collected are not such as to warrant an attempt to answer this question. Each of the three types of installations listed above is favored by certain users and is said by them to be the most economical in operation under the conditions found in their schools. In new buildings it should be possible to determine the most economical installation where the limiting conditions can be made to approach the ideal. In old buildings, however, where it is necessary and advisable to use the boilers and stacks that were originally installed to burn the large sizes of hard coal with a natural draft, it seems evident that there is no *best* type of blower installation. Each case must be governed by the limiting conditions found.

Judging from the experience of those who have carried through careful tests and under conditions found in old school buildings, it is far better to select the type of blower that will more nearly suit the limiting conditions found in the building and the heating system in use than to try to change the existing system to meet the requirements of the old type of blower installation said to be or thought to be best under all conditions. In fact, stack conditions and the design and setting of certain furnaces and boilers in use in some old buildings, make it unwise to attempt to use any type of blower or forced draft. In some cases escaping gases have made it impossible to use the blowers after they were installed.

By engaging a competent heating engineer to make the necessary detailed study of existing conditions and the advisability of installing blowers, the board of education will have the data necessary to determine what type of blower installation, if any, should be made. This rule should be followed: *Make no blower installation in an old building,*

except after the findings and upon the recommendation of a competent engineer.

Competent Engineering Required

The need for special care on the part of the board of education is stressed in a letter received from J. M. Tracy, superintendent of school buildings, Rochester. Mr. Tracy writes:

"Our experience shows that general indorsement of equipment consisting of mechanically driven fans and special grates for the burning of the small-size anthracite coal cannot be given. While withholding general indorsement, we admit that the conditions prevailing in some school buildings are such as to permit an installation of equipment that will show economies in fuel costs over existing operating conditions. Likewise are we cognizant of existing designs of furnaces and chimneys which would result in objectionable conditions were this equipment installed without competent engineering opinion as to necessary changes to be made to

LEARNING THROUGH ACTIVITY

Probably the most significant trend in education during the past half century has been the reaction away from the formalism and rigidity of the conventional school with its severe and repressive disciplinary measures and in the direction of a school in which there is greater freedom for the individual and better opportunity for his natural development, more provision for play and artistic expression, and greater emphasis upon learning through activity, both physical and mental, rather than through passive absorption of adult-imposed ideas. — Charles L. Spain.

The judgments of science are distinguished from the judgments of opinion by being more impartial, more objective, more precise, more subject to verification by any competent observer, and by being made by those who by their nature and training should be better judges. — Edward L. Thorndike.

prevent objectionable results from the operation of special equipment installed under faulty conditions.

"My feeling is that many of the smaller schools could use such equipment to advantage but that before such equipment is contracted for, those in authority should be cautioned that the satisfactory operation and promised economy is dependent upon the proper analysis of the problems existing in the building and the boiler plant."

The statement contained in a letter received from Charles W. Morse, superintendent of school buildings, Binghamton, serves as a fair summary of all replies from schools using the fine grades of hard coal. Mr. Morse wrote: "We have been using blowers on our heating boilers for the past two years with very satisfactory results. In these cases we are using buckwheat coal instead of the egg coal previously used. We find that we are saving considerable money by using the lower grade and less-expensive size of coal and are getting equally as good results. In many instances, we are saving one third to one half of our coal money."

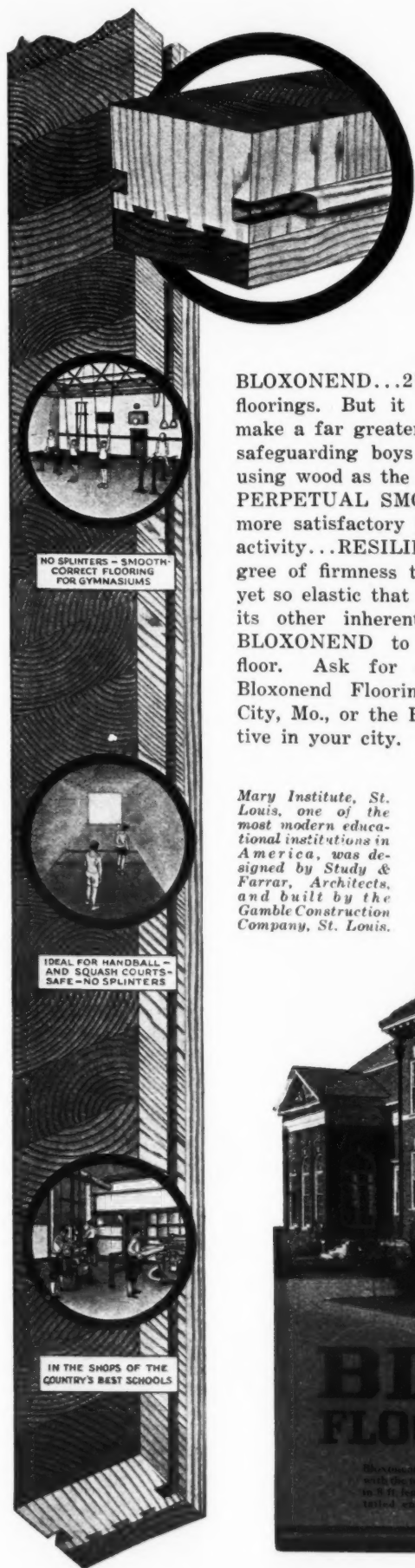
Use of Fine Grades of Hard Coal

The pertinent comment gathered from all of those who have assisted in this portion of the study is summarized below:

The fine grades of hard coal can be burned successfully with or without special equipment such as blowers and fine-coal burning grates, but the use of blowers is always recommended for the most successful and economical operation where fine hard coal is used. Special grates may or may not be desirable in a given installation. They too, however, are usually found to be worth while.

The first cost of special equipment varies from a few dollars to many hundreds of dollars, depending upon the size of the plant and the elaborateness of the equipment. Electricity to operate the blowers, interest on the investment, depreciation and upkeep items must be counted in as increased cost and charged against reductions in fuel costs to determine the actual saving made by using the fine grades of hard coal.

(Continued on Page 73)



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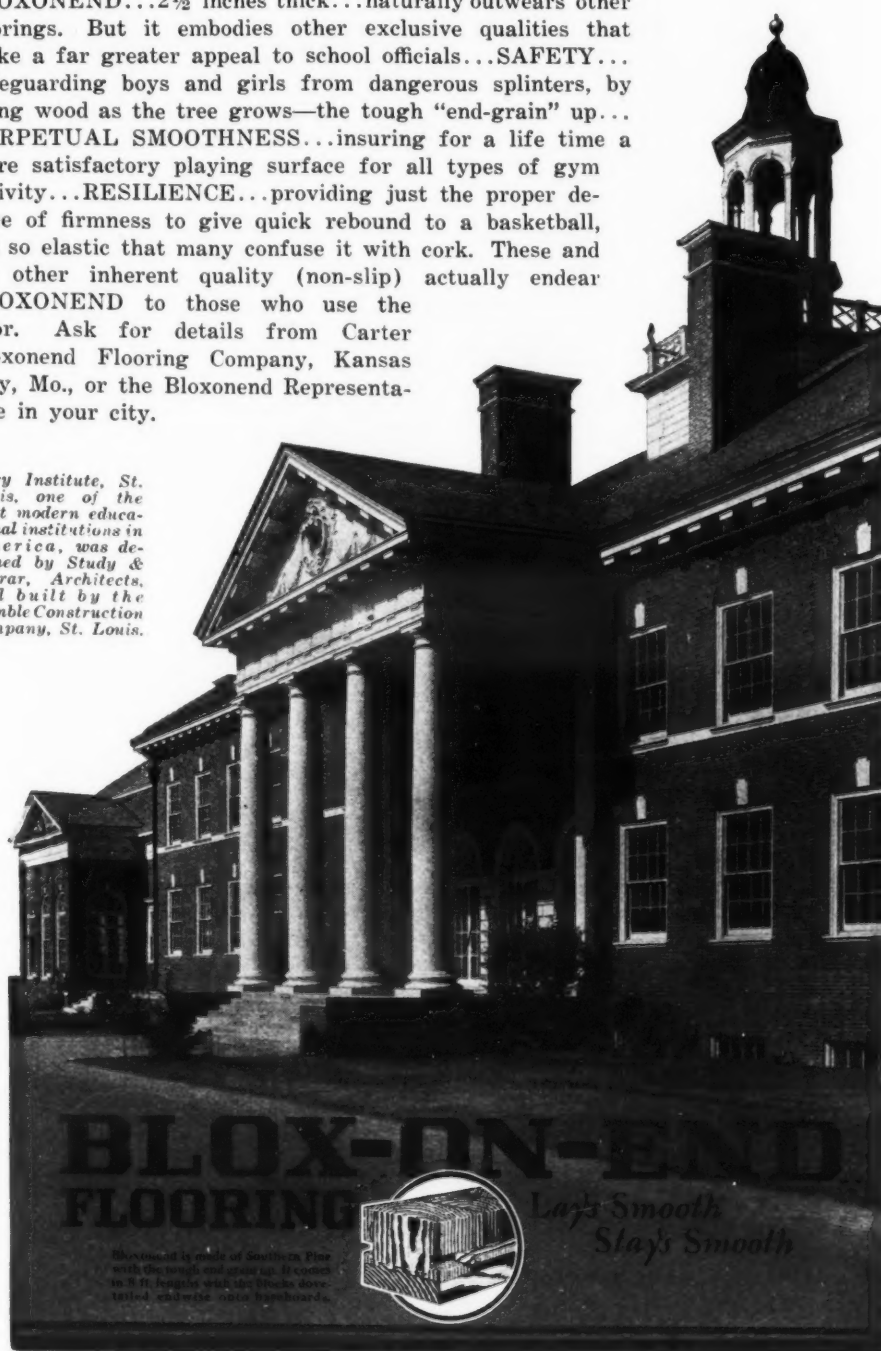
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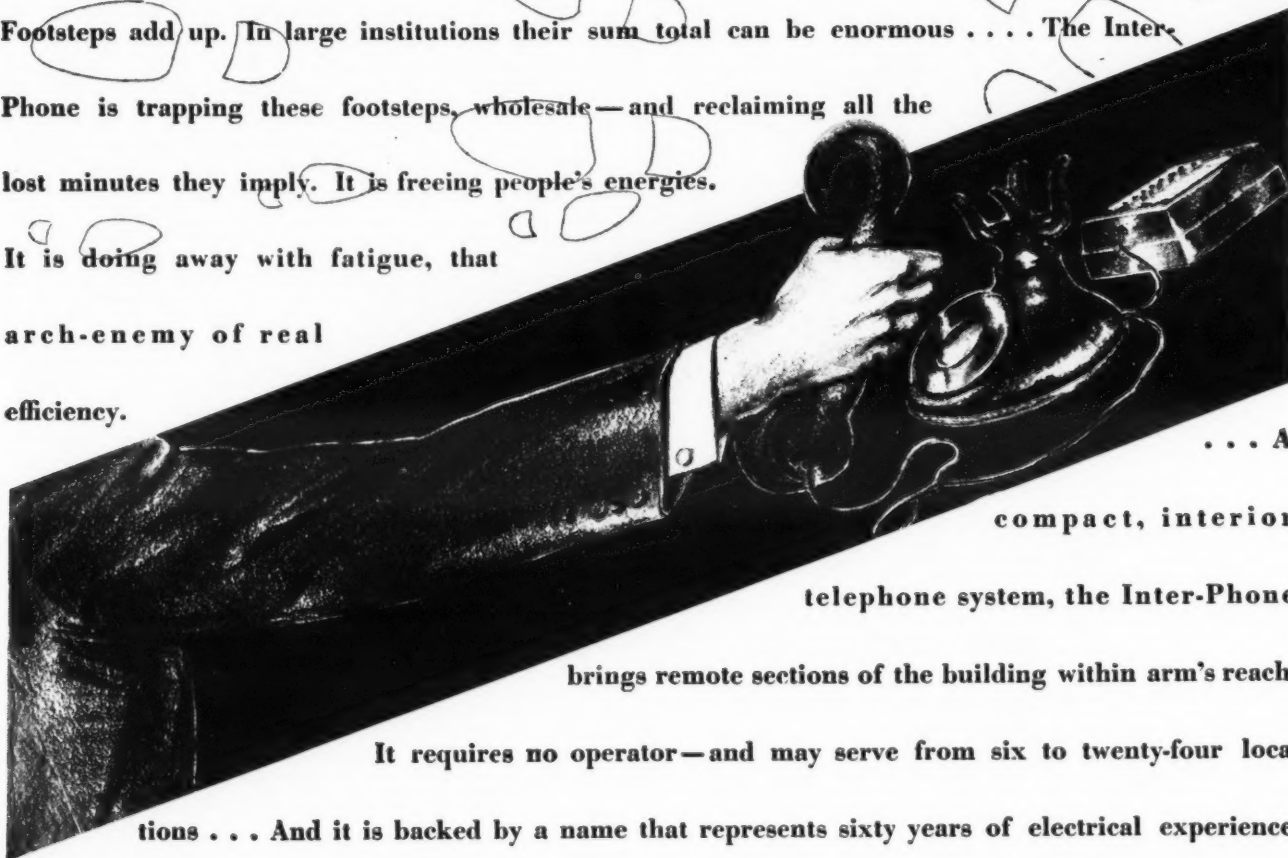
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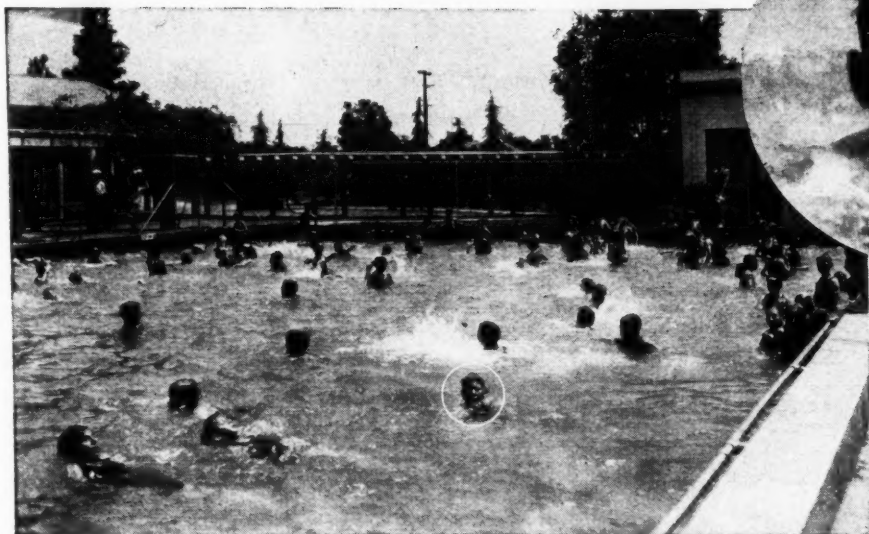
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SP 10A

(Continued from Page 70)

In cases where the pinhole grates and large blowers are used it may be necessary at times to employ extra engineering or janitorial help to maintain the fires during the night in extremely cold winter weather to protect the steam mains and water pipes in the school building. Boiler flues must be cleaned oftener and more tons of fine coal must be shoveled; but this extra labor is largely offset by the comparative ease of handling fine coal.

An improper installation may result in loss of heat units through improper combustion or late combustion in the smokestack breeching or in the chimney itself. In old buildings the use of blowers may fill parts of the building with coal gas escaping from faulty chimneys, smokestack breeching or outworn furnaces.

In addition to the very great saving in fuel costs, boards of education claim that where the blowers are used it is possible to secure a much more positive control of the heating plant. The building can be made warm in a very short time on the coldest of winter mornings and even temperatures can be maintained inside despite rapid changes on the outside of the building. When the building or a portion of it is wanted for use at night or outside the regular school hours, the desired temperatures can be had after a few minutes and maintained as long as desired. The janitor-engineer's firing day can be materially shortened during the greater part of the school year.

Finally, in new buildings, it is rapidly becoming the general practice to provide for the use of the fine grades of hard coal where hard coal is used at all. This practice is serving to reduce fuel costs in the schools of this state in an amount running into thousands of dollars annually. If anthracite coal is to be used for fuel in a given district, the board of education will do well to consider at length the kind of heating installation to be made when a new building is to be built, or a new heating plant installed.

Use of Semibituminous Coal

Many boards of education in this state are using good grades of semibituminous coal with success

and entire satisfaction. These users claim as much for this coal as has been claimed by those who have adopted the use of the fine grades of hard coal with blowers. It is claimed that this coal is low in volatile matter; that it burns easily and produces much heat; that it leaves comparatively little ash; that it does not clinker; that little smoke is produced; and finally, that the cost for a ton is usually about one half the price paid for commercial grades of anthracite coal.

In reply to our inquiry on fuel costs, Mr. Arthur S. Wardle, president of the Hudson board of education wrote: "During the school year 1926-27, we used in the public schools of the city approximately 624 tons of semibituminous coal. This cost us \$8 a ton in the bins. Anthracite coal at the same time cost \$14 a ton, so that during the school year 1926-27 there was a saving of \$3,744 by using semibituminous coal."

A saving of \$3,780 was claimed for the school year 1927-28 in the same district. Users of semibituminous coal claim that no more tons are required than when anthracite coal was used. Some of the best grades of semibituminous coal contain more B.t.u. than the anthracite coal ordinarily used. The use of semibituminous coal requires no special equipment or extra labor. It can be used wherever either anthracite or soft coal has been used successfully.

Schools located in or near the soft-coal fields will profit, in most cases, by using superior equipment and burning good grades of soft coal. Soft coal can be burned successfully under school-building heating and firing conditions, provided the proper kind of boiler installation has been made. Some boards claim that the major objections against the use of soft coal in schools have been overcome. Indeed, some of the most recent, well-planned, high-class installations for the burning of soft coal are giving very satisfactory results where a good grade of low volatile coal is used.

H. O. Hutchinson, superintendent of the Elmira schools, reported their practice and experience as follows:

"In schools equipped with double fire box, down draft, smokeless boilers, we are using a medium volatile coal costing from \$1.30 to \$2 a ton, f.o.b.

mines. We have no difficulty from excess smoke from these plants. In the other schools equipped with single fire-box boilers we are using a high grade of low volatile, navy standard coal, and, of course, have no trouble from smoke."

Superintendent Hutchinson's statement is typical of those made by the users of soft coal.

To burn soft coal successfully it is necessary to plan, build, and operate the heating plant more carefully than is done where any other fuel is used. A great deal of the waste and dissatisfaction that has arisen in the use of soft coal can rightfully be charged to the kind of heating plant in use, and lack of understanding and care on the part of the janitor. More janitorial care will usually be required where soft coal is used.

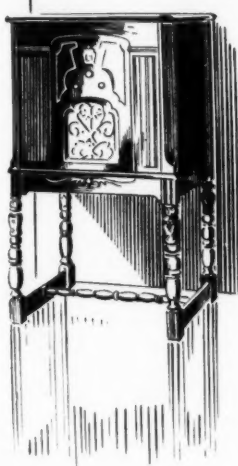
Types of Mechanical Stokers

Another device known as the mechanical stoker has been perfected to such extent as to give it an important place in certain types of coal-burning installations. Where these mechanical stokers have been installed after a careful analysis of the limitations of the system to be served and in keeping with all limiting factors, large savings have resulted from their use. Boards of education who have used them and who have reported the results of their experiments present cost data that are most encouraging.

There are three distinct types of mechanical stokers on the market. Each of them is a proved success under a given set of operating conditions. The one that has been most popular thus far is the underfeed type of mechanical and automatic stoker. This gives a positive underfiring of coal with forced draft. The coal is carried from the outside hopper to the fire box by a spiral or auger-like worm. The coal is forced in and up from the bottom of the fire box. Boards of education using this type of stoker claim that it can be used with success where intermediate grades of either soft or hard coal are used. Best results are claimed for it where soft coal or semibituminous coal is used. One board of education reported that whereas it had spent approximately \$3,800 a year for fuel when hard coal was burned without stokers, the fuel costs were reduced to \$1,070 the first year that the stokers were used to burn "nut-slack" coal.



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The chain-grate and overfeed types of mechanical stokers are recommended for the burning of all kinds of coal. It is claimed that they will function equally well with hard or soft coal. Some consulting engineers hold that the overfeed and chain-stokers are most efficient in the burning of hard coal and that the underfeeding stokers are most efficient in the burning of soft coal. If we are to judge wholly from the success reported by those who have used these devices under school-building limiting conditions, it is fair to say that no type of stoker is best under all conditions and that the success of any one of them depends to a very large extent upon the limiting conditions found in connection with the heating plant with which the stoker is to be used.

It seems advisable here to stress the importance of having a careful analysis made of limiting conditions before any mechanical stoker is installed. In many old buildings it would be most unwise and unsafe to install any of these special devices without first making other changes. Boards of education should follow the practice of making such an installation only upon the advice of and with the assistance of a competent engineer. If the salesman is not a registered and practical engineer his analysis of the limiting conditions should not be accepted without question and careful checking.

Use of Fuel Oil

For many years the use of oil as an economical fuel for school-building heating was seriously questioned by heating engineers and boards of education. The few boards of education that ventured to try out oil burning installations were cautioned to plan their heater or boiler and fuel rooms in such a way as to make it possible to change back to the use of soft coal, if the experiment did not prove economical and successful. Some of the earlier and poorer installations almost proved that oil was not a proper fuel for school-building heating. Trouble and breakdowns resulted.

Today, the use of oil for fuel under school-building heating requirements and limiting conditions is a proved success. The number of oil installations is rapidly increasing, more so than any other one type of installation. Five years ago, the number of

oil-burning installations was small and their continued use was uncertain. A cursory review of new heating installations indicates that the number of oil burners in use has doubled each year during the past three-year period.

Boards of education having and using high-grade, well-planned and successful oil-burning installations are almost unanimous in expressing their satisfaction with the results obtained. One of the special reports received concludes:

"We will say in closing that we are very well satisfied in every way . . . and we would not want to think of going back again to the use of anthracite coal.

"Oil burners require a minimum of attention, care, and janitor's time. In some schools the cost of janitor-engineer service has been cut in half; in others, where the same employees have been retained, it is claimed that the janitorial duties other than those having to do with firing have been increased and sanitary school building and playground conditions generally have been greatly improved.

SCHOOL-BUILDING PROGRAMS

School-building programs, scientifically conducted, have become important features of the whole school-building problem. The public now insists upon knowing (1) what kind of school organization is to be housed in the new building; (2) whether the proposed accommodations guarantee a just return to pupils for the time spent in school and to the community for the money expended; (3) trends, shifts, and increase or decrease in total and pupil population over a period of years; (4) what will it cost? These factors can be determined only after a thorough and scientific study of the school plant has been made and a careful estimate presented covering both present and future needs.—Dr. HuBert C. Eicher, State Director of School Buildings, Pennsylvania.

"Oil burners give quick response and uniform or varied heat as desired, throughout the school day and throughout the year. Rapid changes in outdoor temperatures are fully met and overcome by the equally rapid adjustments made in the positively controlled modern oil-burning installation. One user points out that schools are warm at nine o'clock on the coldest mornings now, but that they were not when coal was used."

In the warmer sections of the state, boards of education claim that oil has another great advantage over coal, in that oil can be used for as long or as short a period as desired and then shut off completely, at once and without waste. In this connection, J. T. P. Calkins, superintendent of the Hempstead public schools, wrote:

"In our latitude we often have cold or chilly mornings in September, October, May, and June when a little steam is needed in the morning for a short time but would be a burden and expense during the midday. Oil burners adapt themselves to this condition while coal burners will not."

Further Advantages of Oil

Boards of education also urge the following added advantages for the oil burners: Less boiler and fuel room space is required; where oil is used, the boiler room is as clean and free from dirt as any other part of the building; the absence of smoke, soot, gases, coal dust and ashes reduces the necessity for and the cost of frequent redecorations of classrooms and interiors; ash removal is done away with as well as the expense, dirt and annoyance; where oil is used it is possible to secure a higher type of janitor; as one correspondent put it, a man who is "older, more responsible, more intelligent, and more self-respecting and appreciative of his position."

The cost of heating when oil is used varies widely, if we may take the reports received as representing typical conditions. In some cases, boards report savings of as much as 40 per cent over hard-coal burners formerly in use; in others, the change from the use of hard coal to oil resulted in higher fuel costs, according to the reports received. Without exception, however, the claim is

(Continued on Page 76)

A MESSAGE TO SCHOOL OFFICIALS FROM THE UNITED STATES GYPSUM COMPANY



How Distracting Noise May be Reduced In Your School

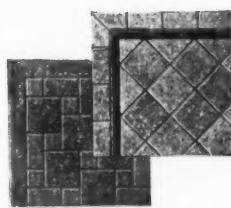
PROGRESSIVE educators have long been seeking an effective means of eliminating distracting noise from their schools. They know that noise impairs efficiency, that students do better work in quiet surroundings.

Now, by using Acoustone, the USG acoustical tile, many school officials have found that noise can be abated successfully. Based on the scientific laws of acoustics, Acoustone provides a more comfortable noise level by preventing the continued reflection of sound in classrooms, study halls, libraries, corridors, lunchrooms, machine shops, and gymnasiums. Or it can be used to provide proper hearing conditions in auditoriums, lecture halls, music rooms, etc.

USG

Without interruption to school activities, Acoustone may be easily and quickly applied to present walls and ceilings. Structural alterations are unnecessary. Varied sizes, patterns and color permit the choice of a great number of beautiful decorative schemes. Being a mineral material, Acoustone is fireproof and sanitary. When soiled, it may be easily and economically restored to its original appearance by vacuum cleaning.

Where it is desirable to prevent the transmission of noise from one room or floor to another, the USG System of Sound Insulation is generally employed. This scientific method of wall, floor,



The many designs, patterns and color combinations which may be obtained with Acoustone make its use highly desirable in connection with any type of masonry, as well as other interiors.

ceiling and door construction prevents noises traveling from corridors, music rooms, gymnasiums, workshops, etc., to other parts of the school building.

If you are interested in eliminating school noises, one of our experts will gladly study your noise problems and make recommendations for their solution. This service incurs no obligation. Should you accept his recommendations, we will supply the material, supervise its installation and accept full responsibility for the predicted results. Please address the United States Gypsum Company, Dept. 7511, 300 W. Adams St., Chicago, Ill.

A C O U S T O N E

Routine cleaning costs less this quick, easy way

THE cost of regular cleaning of floors, walls, windows and fixtures in classrooms, washrooms and corridors can be lowered appreciably by the use of Oakite. This quick-working material saves time and does away with most of the hard work.

Grease and dirt yield readily to an Oakite solution. Cleaning time is cut to a minimum. Little or no scrubbing is needed on



any cleaning job when this effective material is used. Its free-rinsing qualities make it easy to mop up . . . all dirt and foreign matter go with it. No slippery films or other deposits remain.

Our Service Man in your locality will gladly show you how time-and-work-saving Oakite lowers cleaning costs. You assume no obligation by writing us to have him call.

Manufactured only by

OAKITE PRODUCTS, INC., 26B Thames St., NEW YORK, N. Y.

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TRADE MARK REG. U. S. PAT. OFF.

Industrial Cleaning Materials and Methods

*Oakite Service Men,
cleaning specialists,
are located in the lead-
ing industrial centers
of the United States
and Canada.*

(Continued from Page 74)

made that the change to oil has resulted in some net saving to the district. The saving is credited to (a) reduction in fuel cost; (b) reduction in janitorial cost or increased efficiency from janitors retained; or (c) positive control of the heat produced at all times, and the operation of the plant intermittently or continuously as needed, and without unnecessary waste.

The extreme cold that we have in New York latitudes during a few wintry days makes it necessary to install heating plants large enough to heat the buildings comfortably under ordinary firing conditions on these few cold days. To do otherwise, would be to revert to the practices of a quarter of a century ago when the average heating plant was burned out every two or three years by being forced beyond its capacity for a two- or a three-week period during the dead of winter. This practice has been changed to one of using a heating plant of such size as to provide against the severest winter weather in this latitude.

The change has brought its disadvantages, however, as well as its advantages. A heating plant that is capable of properly heating a building in subzero weather without being forced is also capable of, and likely will greatly overheat the same building during the remainder of the time it is in use, unless unusual care is taken to prevent overheating. Overheating in the school means fuel waste, uncomfortable and unhealthy classrooms, and a lowering of pupil and teacher efficiency.

Automatic Temperature Control

Automatic control is a real saver in every school where it is used. Wherever tests have been made, boards of education claim that better heating has resulted and lower costs have been secured. Temperature charts show that where automatic control is provided, the heat is partly or wholly cut off during a large part of the school day for and during the greater part of the school year. This is true no matter how closely the janitor-engineer may watch his fires, provided he produces enough heat to meet the needs in the most unfavored rooms in his building.

The waste through overheating of school buildings is a very considerable item in school-building operation. It is not uncommon to find classrooms with temperatures running into the 80's; a few cases have been found where children were being required to sit in classrooms with a temperature hovering around 90 while spring or winter temperatures prevailed outside. The heat in such cases is far worse than wasted. It is detrimental to pupil health and a real obstacle to pupil progress.

Classrooms on the protected and sunny side of a building are commonly overheated while those on the windward, nonprotected side, without sunshine are cold or barely comfortable. Without automatic temperature control in each classroom, proper classroom temperatures cannot be maintained. The body heat given off from the 40 little stoves crowded into a cozy room on the leeward, sunny side of a school building produces a heating problem very different from that on the opposite side of the building in a classroom having 10 or 15 pupils. A classroom that is comfortable at the beginning of the class period or at the opening of school in the morning is too warm before the close of the period, if the amount of heat supplied and the outside temperature remain the same.

In most buildings where automatic control is not used, the classrooms are first too warm and then too cold. The temperatures vary widely. Teachers, to protect their pupils and themselves, raise and lower their classroom windows at will. If each room in the building were entirely independent of the others in its heat and air supply, this practice would not be so bad; but they are not. As a result, the part of the building and the classrooms that need the most heat get the least, while the teachers occupying the protected and overheated rooms open their windows to cool their rooms and without intending to do so, further reduce the temperatures in the rooms needing more heat.

Eliminating the Human Factor

All too frequently we find that fresh air is being introduced into the room at outside temperatures while the direct radiation is left wide open to

heat the room. The introduction of the cold air into the warm classroom sets up drafts in certain parts of the room and an unhealthy classroom is the result. It would be more desirable to provide automatic controls that would guarantee the proper classroom temperatures, bringing the air into the room at or near the temperature desired, and using only so much direct radiation as may be necessary to maintain the desired temperature. Where units are in use it should be impossible to by-pass cold air into the classroom with the radiators turned on. Where both direct and indirect heating systems are in use, the direct heat should be the first to go off and the last to come on.

In some schools as much fuel is wasted in banking the fires and carrying relatively high temperatures during the night and out of school hours as is required to heat the building properly while school is in session. This waste is unnecessary. With proper controls, low temperatures can be maintained throughout the building when it is not in use, and different temperatures can be carried in the several parts of the building at any and all times to suit the use to which these parts are being put.

The automatic control of proper type, installed and operated under proper conditions, takes most of the human element out of the operation and control of the heating and ventilating systems, thus giving heat in the proper amount when and where needed. Overheating is eliminated; even temperatures are maintained throughout the school day in each and all of the classrooms; varied temperatures can be had in the different parts of the building to suit the needs of the several departments of the school; and low temperatures of the proper degree to protect the plumbing and prevent undue weathering of interior walls, ceiling, etc., can be secured and maintained while school is not in session at night, over week-ends and holiday periods. By keeping and studying weather and temperature charts, the janitor can know and operate his system, after a time, with a minimum of waste in fuel, a maximum of efficiency and comfort, and less attention, effort and care than is now required on his part.

(Concluded on Page 78)

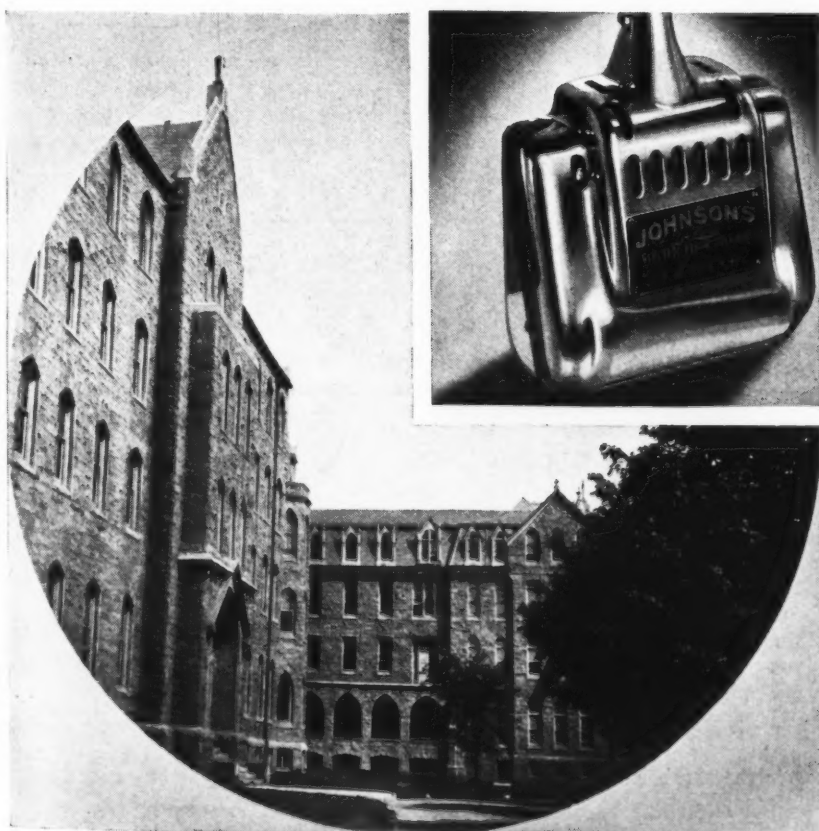
Johnson's maintenance service with



GENUINE WAX

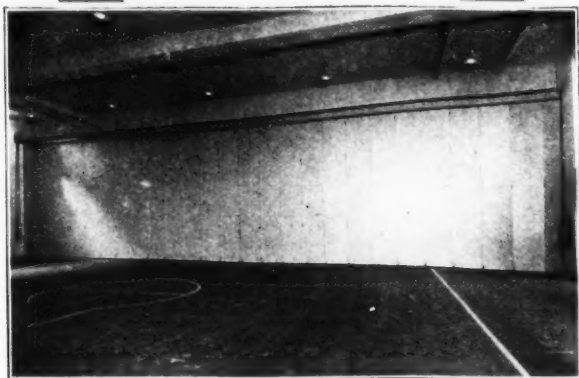
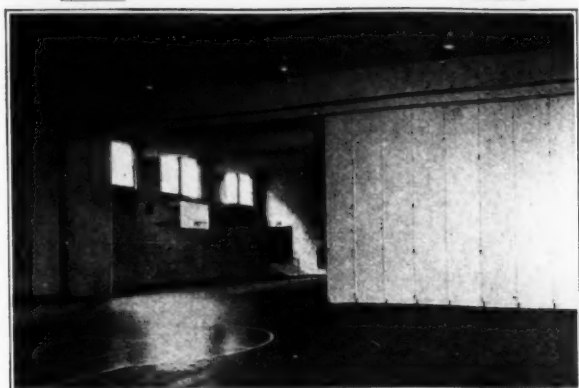
costs no more than other methods

• As you wax your floors according to the Johnson maintenance schedule, they become increasingly more resistant, more resilient, more durable. Floors of all kinds—wood and the useful new composition materials—respond to genuine wax as to no other treatment on earth! In saying this, we speak from an experience of forty-six years with practically every type of floor maintenance problem—an experience that is reflected in your talk with a Johnson floor maintenance expert. • And Johnson service costs no more than other methods, costs nothing to investigate. • S. C. Johnson & Son, Racine, Wisconsin.



JOHNSON'S WAX for school and college floors

Augustinian College of Villanova, Villanova, Pa. Another distinguished college using the Johnson's Wax method of floor maintenance.



THIS HORN FOLDING PARTITION

Type A, 84 ft. x 20 ft.

is installed in the new

MESSMER HIGH SCHOOL
MILWAUKEE, WISCONSIN

Architects: Herbst and Kuenzli, Milwaukee

Some HORN GYMNASIUM PARTITIONS are

150 Feet Long

Others are over

29 Feet High

All of them are acoustic, top hung, mechanically operated, use no floor tracks, and are serviced and guaranteed for five years. These facts insure a high class installation.

HORN FOLDING PARTITION CO.
FORT DODGE, IOWA

Representatives in all Principal Cities

(Concluded from Page 76)

The Janitor and Fuel Economy

The biggest single factor in fuel saving or waste is the school janitor-engineer. A good janitor can do much to make an inefficient, burned-out, dilapidated heating system work well. The intelligent janitor who takes pride in his job of providing a homelike school and a cheerful classroom for every child in his building, succeeds in surmounting great obstacles of every kind, from the worn-out heating system to the almost unmentionable basement toilets. On the other hand, the lazy, indifferent, unintelligent, unkempt and unthinking janitor will waste fuel and have an unkept and unkempt building, no matter what devices are provided.

The best and the worst are included in the rôle of school janitors. The typical janitor in the larger schools is a man worthy of his hire, who does his work thoroughly and finds real pride in having a cheerful and healthful school building. The janitors who are found at the lower end of the scale—and most of these are found in the school buildings in the smaller communities—are a poor lot indeed. The janitor, however, is not to blame. The fault lies with the boards of education and the system or lack of system employed in the selection of janitors.

In many communities, the janitorship is handed out annually to the lowest bidder, and this without regard to qualifications. In others, the practice is to give the janitorship to some lazy, indolent character who refuses to support his family by taking and keeping another job. Where this is done, the wife and children are usually called upon to come in and perform most of the work other than that of occupying the improvised bunk in the boiler room, and firing the boilers. The practice of giving the janitorship to some crippled or sickly person as a quasi-pension job is equally as bad, though it be cloaked in charity toward the unfortunate individual. The rights of the children should always come first in any and all things having to do with the school, for is it not for them that the school is operated?

LOWER BIRTH RATE AFFECTS SCHOOL ENROLLMENT

A recent statement of the U. S. Office of Education points out that the low 1923 birth rate will manifest itself in fewer first-grade school enrollments this year.

On the other hand, an increase in the total enrollment of all educational branches is expected, based on the statistics of the past few years. It is shown that the reduction in the number enrolled, as well as in the percentage enrolled in the early grades will be accounted for partly by the reduction in the birth rate. The birth rate declined from 25.6 per 1,000 in 1913 to 24.6 in 1918, and then suddenly dropped to 22.3 in 1919, which was due partly to the effect of the activities of the war period and to the influenza which reached its peak of epidemicity in November, 1918. The first-grade enrollment in 1926 dropped below 4,000,000 the first time this had happened since 1913. It then increased to 23.7 in 1920, and to 24.3 in 1921. Similarly, the first-grade enrollment increased to 4,171,037 in 1928.

The birth rate in 1922 dropped to 22.5 and has gradually become smaller each year since, almost without exception, reaching 19.7 in 1928. A continuing decrease in the first-grade enrollment is predicted as far ahead as 1935.

The falling off in the enrollment in the early grades has been noticed, even in the growing cities, for several years. Chicago, for instance, which is growing at the rate of 56,000 per year, had a healthy increase in the total enrollment in the first six grades to and including 1924. Since that time, the enrollments have fallen off. In 1924, Chicago reported 260,872 children as members of the first six grades in day schools at the end of September. The corresponding figure for 1929 was 254,666.

NEW YORK CITY REPORTS DECREASE IN RETARDATION

Supt. William J. O'Shea of New York City, in a recent report, shows that there has been a steady increase since 1922 in the number and per-

centage of elementary-school students making rapid or normal progress in their schoolwork, and a constant decrease in the percentage and number of those "left back."

For the city as a whole, Dr. O'Shea finds that 340,520 pupils, or 51 per cent, of the total register in September, 1928, are making normal progress, while 15 per cent are accelerated, and 34 per cent are retarded. This is the first time that more than 50 per cent of the students are in the normal-age group.

The report shows that, while retardation is a problem of considerable importance in all school districts, it is a much greater problem in some districts than in others. Some of the districts having the greatest amount of retardation are districts which are known to have many pupils of low mentality, but in other cases, other factors seem to be operating.

According to Dr. O'Shea, the reduction in the number of pupils making slow progress has been steady since the compilation of the first statistics. In September, 1922, 43.01 per cent of the pupils in elementary schools were making slow progress. In September, 1928, this percentage was reduced to 34 per cent of the register. The reduction has been accomplished by gradual stages, and there is reason to anticipate further reductions.

♦ Supt. J. W. Ramsey, of Fort Smith, Ark., announces that 93 of the teachers in his school system attended higher institutions of learning during the summer vacation months. "These teachers," said Superintendent Ramsey, "piled up 751 hours of credit for their summer work which is equal to 25 years of college work, or six and one-half A.B. degrees."

♦ Indianapolis, Ind. The school board has proposed new age limits for employment of city-school custodians, janitors, and shopmen. The board also discussed the advisability of requiring physical examinations to determine which employees are unable to perform their tasks with maximum efficiency.

Noise

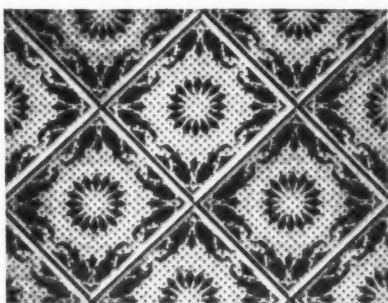
shows up on Jimmy's report card



EDUCATORS agree that a noisy schoolroom is a serious handicap to good work. They know how quickly noise destroys concentration, sets nerves on edge, and cuts down efficiency all around.

That is why Acousti-Celotex has found a ready acceptance among school authorities.

For Acousti-Celotex, applied to the ceilings of schoolrooms, solves the noise problem once and for all. It absorbs disturbing classroom noises* . . . quiets the racket in corridors, cafeterias, gymnasiums, and manual training rooms . . . improves the acoustics of assembly halls.



Acousti-Celotex comes in several standard types and sizes. The deep perforations, exclusive with Acousti-Celotex, serve as channels for carrying sound waves in to the fibrous interior, assuring unusually high sound absorbing efficiency, and permitting decorating without impairing the efficiency.

Acousti-Celotex comes in finished units, durable and decorative, which are quickly installed in old or new buildings. It can be painted and repainted with any good paint, including lead and oil paints, without loss of acoustical value.

Acousti-Celotex is applied by approved contractors who maintain an

engineering staff trained in acoustical problems. The school architect or school board may secure their services for a survey at no cost. For an appointment, fill in the coupon and attach it to your letterhead.

THE CELOTEX COMPANY

919 North Michigan Avenue
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In Canada: Alexander Murray & Co., Ltd., Montreal.
Sales distributors throughout the World.



*
Before Acousti-Celotex was applied to the ceiling of this Lackawanna High School, New York, reverberation was so bad that the words of speakers were unintelligible. Now Acousti-Celotex subdues all reverberation . . . and makes each spoken word clearly audible to every listener.

ACOUSTI-CELOTEX

FOR LESS NOISE—BETTER HEARING

The words Celotex and Acousti-Celotex (Reg. U. S. Pat. Off.) are the trade-marks of and indicate manufacture by The Celotex Company.

ACOUSTI-CELOTEX SERVICE

A. S. B. Jr.—11-30

Write now name below . . . send to the Celotex Company . . . for the appointment of an engineer to analyze your acoustical and noise problems. (No obligations)

Name

School

Street

Town

State

School-Building-Construction Economies

School-Board Business Administration

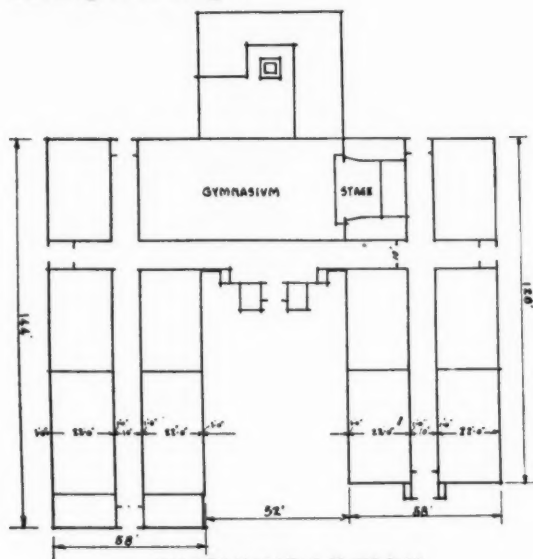
Article VI—Part 6

George F. Womrath, Minneapolis, Minnesota

31. What shall be the width of corridors?

The minimum width of corridors is generally regulated by law in most cities and states. Every foot above the required minimum added to the width of the corridor in a 2-story school building 30 feet high, on the basis of cost of 30 cents per cubic foot, adds approximately \$9 per lineal foot of corridor to the cost of the building. (1 ft. x 1 ft. x 30 ft. x 30c equals \$9, or the increase in cost per lineal foot of corridor for every foot added to the width of corridor.)

Applied to a typical 22-room grade-school building of H design:



DIAGRAMMATIC FLOOR PLAN

A - 22 UNIT ELEMENTARY SCHOOL WITH GYMNASIUM

WASTE RESULTING FROM THE WIDENING OF A SCHOOL CORRIDOR

Increasing width of corridor 1 foot:
1 ft. increase in width of corridor
440 ft. approximate lineal length of corridors
30 ft. approximate height of building
30c assumed cost of building per cubic foot
1 x 440 x 30 x 30c equals \$3,960.

These figures are used for illustrative purposes only. They are not accurate, and considerable liberty is assumed in setting up this computation as the saving in cost is not in direct ratio to the reduction in cubical content or the saving in space. The smaller the building the greater the cost per cubic foot to construct. As the saving in cubage alone does not affect the equipment and the preparation cost, it should not be figured at full value. However, for illustrative purposes, the computation serves the end for which it is presented.

32. What shall be the width of classrooms?

The minimum width of classrooms is generally regulated by law in most cities and states. Every foot above the required minimum added to the width of the classrooms in a 2-story school building 30 feet high, and on the basis of cost of 30 cents per cubic foot, adds approximately \$9 per lineal foot of length of classrooms to the cost of the building. (1 ft. x 1 ft. x 30 ft. x 30c equals \$9, or the increase in cost per lineal foot of classrooms for every foot added to the width of classrooms.)

Applied to a typical 22-room grade-school building of H design:

Increasing width of classrooms 1 foot:
1 ft. increase in width of classroom
544 ft. approximate lineal length of classrooms (counting for rooms on two sides of wing corridors only)
30 ft. approximate height of building
30c assumed cost of building per cubic foot
1 x 544 x 30 x 30c equals \$4,896.

In considering this computation the observa-

tions on the computation in Item 31 should be taken into account.

33. What shall be the height of ceiling?

The minimum height of classrooms is generally regulated by law in most cities and states. Every foot above the required minimum added to the height of ceiling in a 2-story school building 30 feet high, and on the basis of cost of 30 cents per cubic foot, increases the cost of the building by approximately the floor area of the building, multiplied by the increased height of ceiling, multiplied by 30 cents.

Applied to a typical 22-room grade-school building of H design:

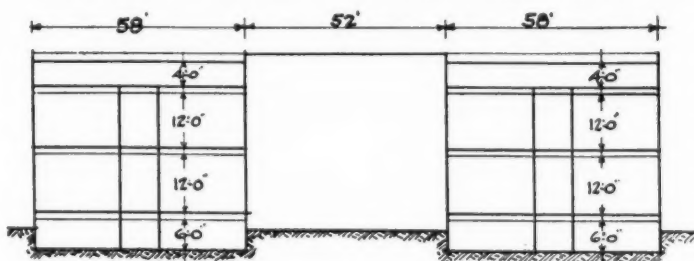
Increasing the height of ceiling 1 foot:
2 ft. increased height of building (2 stories)
58 ft. width of each wing
272 ft. total length of both wings of the building
30c assumed cost of building per cubic foot
2 x 58 x (144 + 28) x 30c equals \$9,465.60.

The center section of the building over the gymnasium is only one story high and is not affected by the classroom height.

34. Are exposed concrete ceiling beams in schoolrooms objectionable?

Exposed concrete ceiling beams lend themselves to better architectural treatment than do flat plastered ceilings. This is why the ceiling beams are left exposed in some notable art galleries, theaters, hotels, and other buildings.

The standard height of a school classroom is 12 feet, measured from floor to finished ceiling.

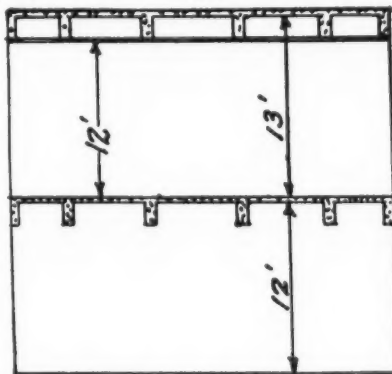


DIAGRAMMATIC SECTION

A - 22 UNIT ELEMENTARY SCHOOL WITH GYMNASIUM

WASTE RESULTING FROM UNNECESSARY HEIGHT OF CLASSROOM CEILINGS

Generally the ceiling is finished by attaching metal lath to the underside of the ceiling beams and applying plaster to this lath. The thickness of this construction, from the underside of the finished plaster ceiling to the top of the ceiling beam, is, on the average, about 12 inches. In



ECONOMY POSSIBLE THROUGH THE OMISSION OF PLASTERING FROM THE CLASSROOM CEILING

schoolhouses recently constructed, a little more care and attention has been given to the form work in order to produce a more even finish to the concrete after the forms are removed. The exposed surface of the concrete slab and beams is then treated with a light application of cement wash or plaster, this gives the entire surface a smooth finish. The metal lath and

plaster are omitted and the concrete beams are left exposed and present a very pleasing appearance. This construction is no more expensive than lath and plaster work and possesses the additional advantage of reducing the floor-to-floor height by at least 1 foot.

Under Item 33 the approximate saving when the height of ceiling is reduced 12 inches in a typical 24-room schoolhouse is 31,552 cu. ft. or \$9,465.60, on the basis of 30 cents per cubic foot.

Exposed ceiling beams tend to make rooms quieter, to improve the acoustics, to reduce maintenance cost, and to facilitate heating and ventilation.

35. Are there any objections to exposed columns or pilasters in corridors?

Corridor walls are usually built flush on both the classroom and corridor sides of all supporting columns, and frequently with an additional breathing wall on the corridor side. This is done in most instances for two reasons: to avoid the exposure of supporting columns, and to hide the ventilation ducts and heating pipes that are carried up through the building. Wherever experiments have been made in the elimination of all unnecessary filler tile, there has been a great gain in corridor space, part of which has then been used for built-in lockers and cupboards. Exposed columns appearing as a series of pilasters in public-school corridors are no longer considered objectionable, as the argument that children bump and injure themselves on the sharp edges of the pilasters and that they throw paper and litter into the corners is not borne out in practice under proper educational administration. Where either the unit or the open-window ventilating system is in use, all vertical duct work and breathing walls are eliminated. This saves from 12 to 18 in. of corridor space and results in a very noticeable reduction in construction cost.

On the other hand, a corridor with projecting pilasters and exposed lockers and storage cupboards is objected to by some educators and architects as not being as good looking as a corridor with perfectly straight walls. A straight wall also affords a good surface for decorating and for murals, and upon which to hang pictures.

36. Lintels and door anchors.

One of the most aggravating and persistent sources of school-house maintenance cost is due to badly constructed door lintels and poorly anchored door frames. Reinforcing may be left out of lintels over all doorways, arches, and openings. However, if this is done, disaster is sure to follow, as the lintels sag and crack, the doorframes warp and the doors sag and stick, and the walls break next to the doorframes, all of which run up large repair bills.

When a doorframe is not securely anchored into the supporting walls, the constant jarring due to the opening and closing of the door soon breaks the plaster surrounding the doorframe. When this happens, the only thing to do is to reset the entire frame, or the trouble will be continuously recurrent.

37. Plaster.

The wall finish in schoolhouses is generally either smooth or rough plaster. Many years of experience with both kinds of finish and of observation in hundreds of schoolhouses leads to the conclusion that smooth or putty-coat plaster is more expensive in original cost, is more easily marked and damaged, and the making of repairs is more difficult and costly than when rough or sand-finish plaster is used. It is also much more difficult to paint smooth or putty-coat plaster, and when painted all irregularities in the plaster stand out much more prominently than when rough or sand-finish plaster is painted.



SIGHT AND SOUND IN EDUCATION

With the meteoric rise of the talking motion picture, educators have hailed it as the SUPER-EDUCATOR of all times. Industry and education, recognizing the value of this new medium of expression in their respective fields, have only awaited the arrival of an equipment, portable, flexible, and simple of operation.

RCA Photophone, portable sound-reproducing equipment, now made available, embodies all the superior qualities of sound engineering, scientific principles and research that have made RCA Photophone permanent apparatus the quality sound equipment in many of the leading theaters of the world.

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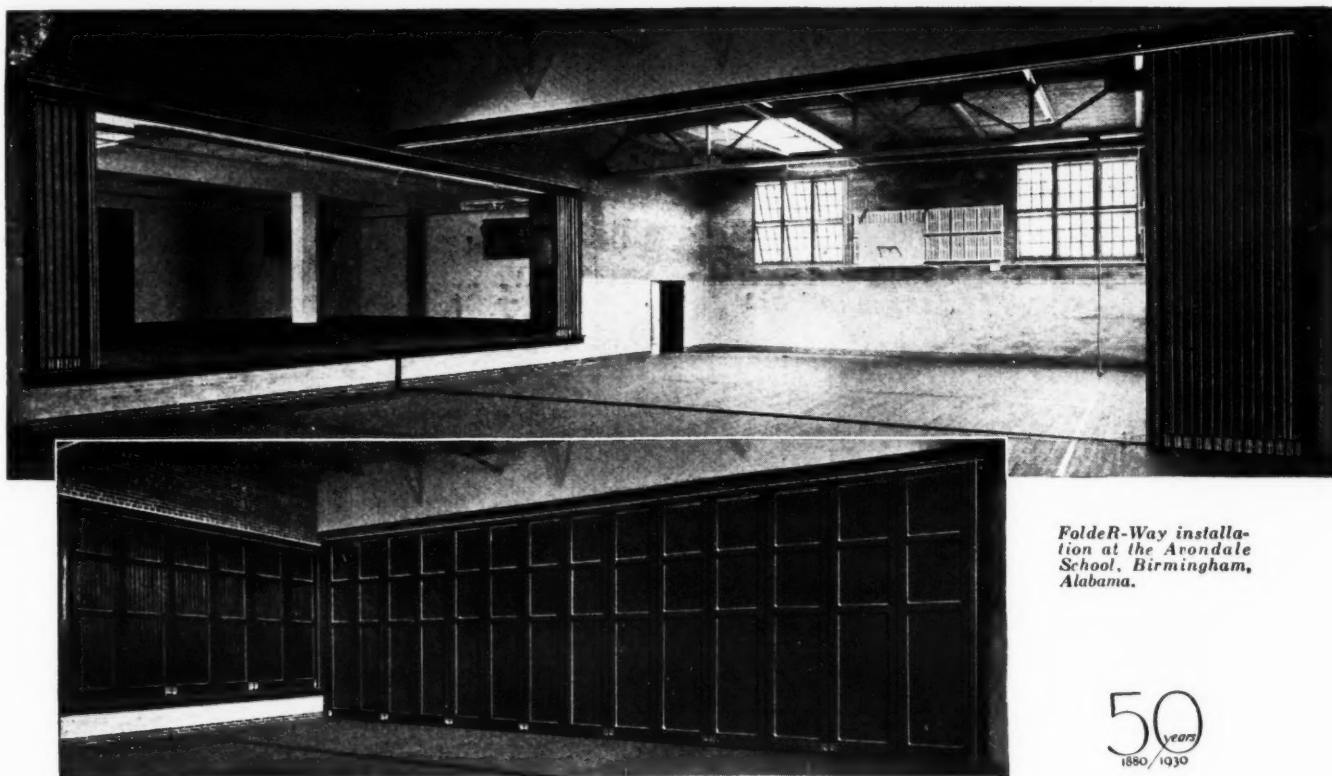
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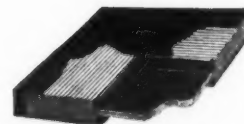
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Here FoldeR-Way makes possible a three-way division of gymnasium and "gallery" space. A sliding-folding partition cuts the "gym" itself in half or throws both halves open into one great sporting arena. The raised "gallery" for spectators may be partly or entirely open, permitting a view of the whole gymnasium or of either half; or this elevated space may be completely closed off for separate gatherings.

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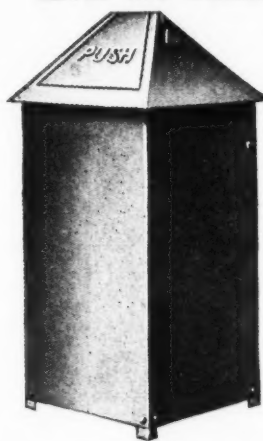
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Cafeteria
Domestic Science
Gymnasium
Locker Room**

School-Board News

♦ Racine, Wis. Three new court actions have been started against the local city council by the school board. One is a mandamus writ requiring the return of \$120,000 received by the council from the sale of the old high-school property. Another orders the council to appropriate \$350,000 for the erection of a junior high school. A third seeks to restrain the council from handling insurance on school property.

♦ Seymour, Conn. A new plan of organization for the local school board has been effected recently, which seeks to promote a stability of policy through less frequent changes in the personnel of the board. Under the new plan, the term of each member of the board will be six years. The terms of the present members will expire three in 1931, three in 1933, and three in 1935.

♦ Marshalltown, Iowa. The school board has installed automatic stokers in the junior high school, at an expenditure of \$3,000. The automatic stokers are expected to effect a saving of 15 per cent in the amount of fuel used.

♦ Jackson, Mich. The board of education has installed a night lighting system for the high-school field. The equipment was used for the first time on September 19, when a night football game was held.

♦ Two Rivers, Wis. The school board has adopted a resolution prohibiting the use of school halls for political or religious meetings. The rule will not operate to prevent high-school debates dealing with political or economic matters.

♦ Yelm, Wash. The student government plan has been discontinued for the present year by the school board. It was the opinion of the board members that the plan had not been an entire success.

♦ San Francisco, Calif. The movement for an elective board of education is meeting with opposition as well as support from a number of local organizations. Mrs. Ludwig Frank, secretary of the public education society, in a recent statement, declared that educators of prominence are agreed that appointive boards are more effective in large centers and elective boards in small centers. She pointed out that, while 3,350 school boards in the state are elective, almost all of these boards are in the small districts where there are only a few hundred voters.

In San Francisco, said Mrs. Frank, an elective school board, such as is suggested, would fall into the hands of a plurality group representing but one class of citizens. The present system of nomination by the mayor is commended by Mrs. Frank, because it provides for a democratic representation of all groups in the city.

Should the proposed amendment for the elective system carry at the general election in November, it will not become effective until approved by the state legislature at its 1931 session. The first election provided for under the amendment would occur in the fall of 1931.

♦ The circuit court of Wayne county, Mich., has recently ruled that a taxpayer's intervention may not be allowed to cripple the efficiency of government. The ruling was given in dismissing a petition to prevent the employment of a legal firm as counsel for the Fordson school district on a three-year basis. The firm was employed by the school board last spring on a three-year contract.

♦ Chester, Pa. Nine former directors of the school board, who were removed from office in 1928 and ordered by the court to pay a total sum of \$466,344 with which they had been surcharged

lost their fight before the supreme court on September 30. The men failed to regain their positions on the board, but were released from the payment of the money levied by the court. The supreme court's action in affirming the decree of removal, closes a legal battle which began in 1923 and drew to a climax in 1928, when the lower court found the group guilty of having awarded contracts without competitive bidding and surcharged the nine directors.

♦ The local district court at Waukegan, Ill., recently granted a petition of the Deerfield-Shields High School board of education for the removal of the Lake Forest school board, in a suit brought to test the validity of the law under which the independent Lake Forest board was created. Opposition to the combined school system is based on the fact that Lake Forest residents are required to pay 47 per cent of the taxes for the support of the Deerfield School, while only 200 of the 1,200 students are from Lake Forest.

The new Lake Forest school board was created under an act of the state legislature, which authorizes the residents of communities of 3,000 population to establish their own high schools.

♦ Baraboo, Wis. A movement has been started for a city ordinance creating a five-member school board, and providing for its election by a referendum vote of the people. The proposition will be submitted to a vote of the people at the November election.

♦ Fairview, Iowa. Two members of the school district board near Danbury, have been removed under a ruling of the district court. Under the decision, J. N. Kueny and J. H. Petit will succeed C. A. DeForest and Mrs. Fred Meisenhelder, who with Fred Meisenhelder comprised the old board. Mr. Kueny and Mr. Petit had sought court action to place them in office, after the three directors had refused to issue certificates of election on the ground that the election was irregular. The board members contended that the election was not legal, because the proper notices had not been posted prior to the polling date.


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from these
22

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- ☐ 8 Convection and Radiation
- ☐ 9 Hydrogen and Composition of Water
- ☐ 10 Ice, Steam, and Boiling Water
- ☐ 11 Density, Purification, and Water Supply
- ☐ 12 Temperature, Air Pressure, and Humidity
- ☐ 13 Winds and Weather Observation
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- ☐ 19 Constellation and Star Study
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♦ Irvington, N. J. The local city commission has approved a proposal of the city calling for a nine-member school board, instead of five members as at present. The question of increasing the membership of the board is to be determined by a referendum vote of the citizens at the November election. Under the law, cities having a population of more than 50,000 are entitled to a nine-member school board should the people so decide.

♦ London, Ohio. The school board has installed an automatic stoker in the school boiler room, which is expected to effect a saving of 50 per cent in the cost of fuel.

♦ Two Rivers, Wis. By a vote of 4 to 1, the school board has prohibited the use of the city schools for political and religious meetings. The action was the result of a speech which was scheduled to be given by a representative of a political party.

♦ The school board of Pittsburgh, Pa., recently approved a memorial tribute prepared in honor of Dr. William M. Davidson, late superintendent of schools of the city. The board referred to its special committee, a suggestion that two bronze plaques be prepared in memory of Dr. Davidson, to be set up in the school-administration building.

♦ The school board of Oak Park, Ill., a suburb of Chicago, has adopted a nonresident tuition fee of \$10 a month, or \$100 a year.

♦ Jersey City, N. J. Under a policy giving employment to unmarried women in preference to married women, the school board has asked for the resignations of all married public-school nurses. The board members were of the opinion that married women should look to their husbands for support. The change affects 12 school nurses of the city, out of a total of 34 on the school nursing staff.

♦ The board of education of Baraboo, Wis., is appointed by the local city council. A petition has now been filed calling for an elective board of five members.

♦ Jerseyville, Ill. A system of electric flood lights has been installed on the Jersey township high-school field, in cooperation with the pro-

moters of the football league and a local power company. The cost of the lighting system will be borne by the fees from paid admissions at football games.

♦ The school board of Fall River, Mass., has adopted a recommendation of Supt. Hector Belisle, providing for a system of supervising principalships in the grammar and elementary schools. Under the plan, four of the smaller schools have been combined with four large schools, the principals of the larger buildings taking over the supervision of one of the smaller buildings. Principals of four buildings were transferred to other buildings, with a total increase in salaries of \$400.

♦ San Francisco, Calif. The state building-trades council is sponsoring a movement for a proposed charter amendment, making the members of the board of education elective. Mr. Frank O. MacDonald, president of the council, in defending the amendment recently, pointed out that of the 3,350 school boards in California, only three, including San Francisco, are not elective.

Comparing the present manner of naming the school board with that proposed in the amendment, Mr. MacDonald said: "Under the present system, the board of education, while exercising practically one-third of the taxing power of the city, is appointed by the mayor and is responsible to no one because its members are not subject to removal, suspension, or recall. In addition, they hold office for seven years."

♦ Muskegon Heights, Mich. The school district estimates that it will receive about \$13,000 in tuition money from its nonresident students this year. The amount which represents an increase of \$1,546 over that of last year, has been attributed to a raise in the tuition from \$80 to \$100.

♦ Pittsburgh, Pa. The redistricting commission has recently been criticized for the selection of fire-engine houses, police stations, and private properties as polling places over public schools. A checking of the situation shows that twelve less schools will be used this year as voting places. It was charged that the change was made to cut down the votes of the desirable element.

♦ New York, N. Y. President George J. Ryan of the school board, has asked the publishers of books approved for use in the city schools to list their paid agents in order to determine if more public officials are on the payrolls of such concerns. Dr. Ryan had previously asked the superintendent of supplies for a list of publishers' representatives calling on school principals. The action followed the disclosure that Mr. John J. Keller, a civil service commissioner, had been engaged by a book publishing company to promote the sales of books in Brooklyn.

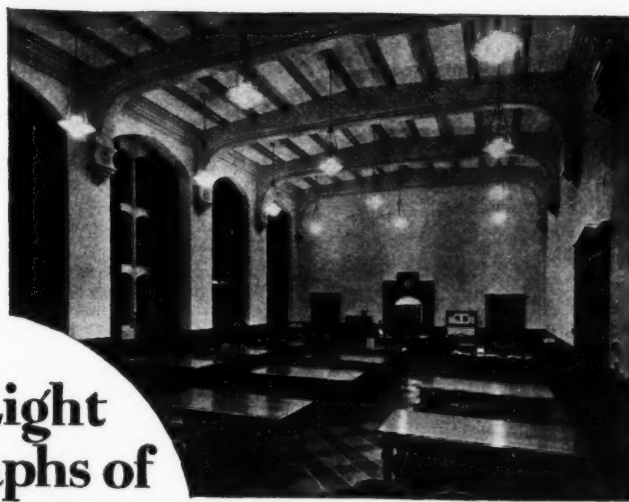
♦ Westbrook, Me. The school board has adopted a rule, excluding members of the press from board meetings, except when invited to attend. The superintendent was given authority to give out reports of school business after the board meeting.

♦ Grand Ledge, Mich. The schools of the city have joined in a movement for the organization of school patrols.

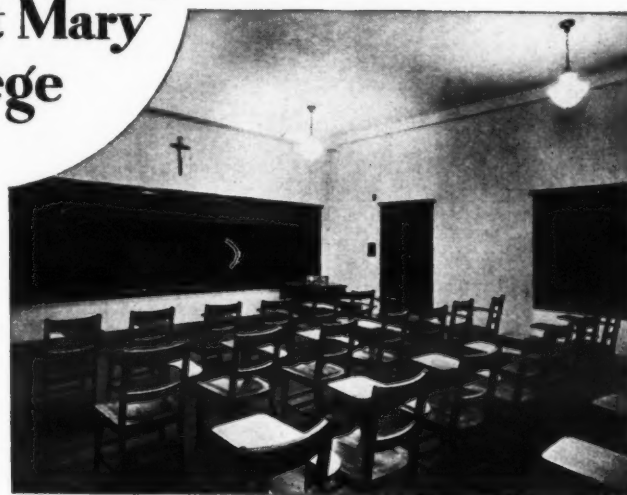
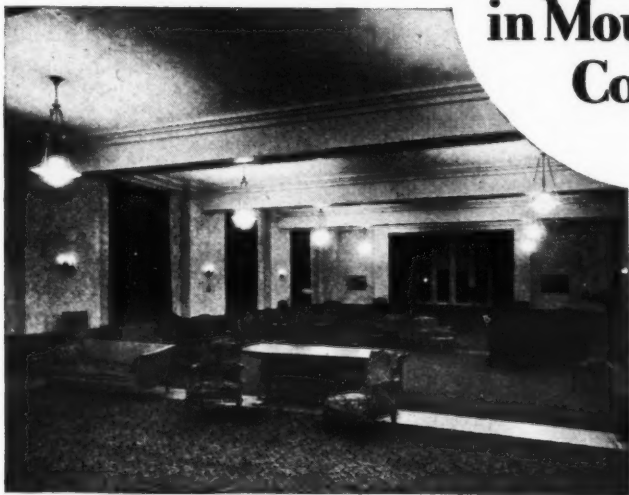
♦ The purpose for which New York City school children contributed \$90,000 in pennies to the Thomas Jefferson Memorial Foundation last year was realized on Tuesday, October 7, when President George J. Ryan, chairman of the bond committee of the foundation, received a satisfaction piece for a \$300,000 mortgage on the Jefferson homestead at Monticello, Va. The Foundation purchased the home in 1923, to dedicate it as a shrine for American school children. The purchase price was \$500,000. In addition to paying off the mortgage debt, the foundation spent \$283,000 for repairs to the buildings and for their upkeep.

♦ Denver, Colo. Specialization of curriculum experimental work which had been carried on at the Ashland School for a number of years, was discontinued on September 1. Under the leadership of Miss Mary G. Carson, the school had made many significant contributions to the more progressive methods of teaching. Under the new policy, it was the opinion that the schools have reached a point where experimentation should be distributed throughout the school system, rather than confined to one individual school.

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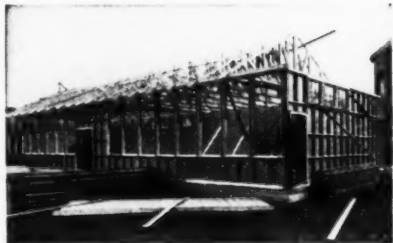
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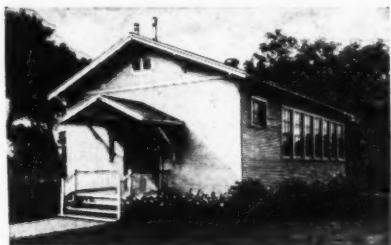
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DETROIT

Personal News of School Officials

♦ DR. GUSTAVE STRAUBENMULLER, associate superintendent of the New York City schools, who has been in the service of the schools of that city for fifty years will retire February 1, 1931, under the pension law. He was born in Baltimore in 1860, and began his work in 1880 in New York as special teacher.

♦ The school board of Burley, Idaho, has reorganized for the school year, with the election of MR. B. O. MCCULLOCH as chairman, and DR. JOHN O. LOWE as treasurer. MR. R. J. BURKE, who was for a number of years clerk of the board, has resigned.

♦ With his reelection as president of the board of education at Grand Haven, Mich., EDWARD W. F. MOLL has begun his sixteenth year as a member.

♦ WILLIAM M. COX is the president elect of the board of education, of New Haven, Conn. He succeeds Eugene D. Grimes, who has served as president for a decade. The new members of the board are EDWARD CROWLEY and VICTOR H. SIEBOLD.

♦ MR. F. G. HOBART has been elected a member of the school board at Beloit, Wis., succeeding L. W. Thompson.

♦ MR. HOWARD J. GESCHIEDLER has been appointed a member of the school board of Hammond, Ind., to succeed Mr. M. D. Metz.

♦ MR. B. D. MACGILL has been elected a member of the school board of Alhambra, Calif., to succeed L. W. Boyden.

♦ A tribute to commercial education was paid on October 4, when the New York City Shorthand Teachers' Association tendered a luncheon to DR. JOHN R. GREGG, founder of the Gregg shorthand

system, at the Hotel Commodore. The luncheon was given in recognition of the degree of S.C.D. (doctor of commercial science) conferred on Dr. Gregg by Boston University.

♦ MR. WARD I. MILLER has been elected superintendent of schools at Fort Collins, Colo., to succeed A. H. Dunn. Mr. Miller is a graduate of the University of Denver and holds degrees given by that institution. At the present time he is completing a course leading to the master's degree from Columbia University.

♦ MR. E. R. ARNDT has taken up his duties as superintendent of schools at Crested Butte, Colo.

♦ MR. O. H. AURAND, of Lehman, Pa., has assumed his duties as supervising principal at Burnham, Pa.

♦ A portrait of MISS EMMA L. JOHNSTON, for many years principal of the Maxwell Training School for Teachers, in New York City, was unveiled on October 3 in the Brooklyn Museum. The portrait which was painted by Mrs. Ellen Emmet, a well-known artist, is intended to commemorate Miss Johnston's contribution to education in New York as head of the Maxwell Training School.

Miss Johnston, who retired from the New York City school system in June, 1928, was present at the unveiling. Under her guidance, the training school grew from a group of less than 40 students to an enrollment of more than 3,000.

♦ SUPT. J. W. SEXTON, of Lansing, Mich., acted in the capacity of chairman of the school solicitation committee during the recent community welfare fund campaign. The committee solicited subscriptions from teachers of the public schools and from board-of-education employees. During the campaign the public and parochial schools of the communities of Lansing and East Lansing contributed more than \$2,500 to the fund.

♦ MR. CLIFFORD L. SARVER, superintendent of the city schools of Spring Valley, Ill., has been given the supervision of the Hall Township High and Vocational School. Mr. Sarver divides his time between the two school systems.

♦ DR. EDWARD S. EVENDEN, of Columbia University, has been appointed as associate director of

the National Survey of the Education of Teachers. Dr. Evenden will work under Dr. William John Cooper, commissioner of education. Mr. Benjamin W. Frazier, senior specialist in teacher training, will act as assistant in the study.

The appointment of a group of prominent specialists has been announced, who will constitute a board of consultants to act as advisers in the undertaking. These comprise Dr. William C. Bagley, of Columbia University; Dr. W. W. Charters, of Ohio State University; Pres. George W. Frasier, of Colorado Teachers' College; Dean William S. Gray, of the University of Chicago; Dean M. E. Haggerty, of the University of Wisconsin; Dean Henry W. Holmes, of Harvard University; Supt. John A. H. Keith of Pennsylvania; Dean William W. Kemp, of the University of California; Pres. W. P. Morgan, of Western Illinois Teachers' College; Dr. Shelton Phelps, George Peabody College for Teachers; and Pres. D. B. Waldo, Western State Teachers' College.

A national professional advisory committee will be appointed to represent the various interests allied with the teacher-training agencies and a national committee composed of lay members will be assigned to other phases of the work.

The survey has begun in response to a demand of the teachers of the country in order to improve the service rendered by teachers and the conditions under which they work.

♦ Associate Supt. EDWARD MANDEL, of New York City, has been assigned to assist Dr. Gustave Straubenmuller as associate superintendent, in charge of the city's junior high schools. Mr. Mandel has in the past directed the elementary-school organization, and it was believed that since junior high schools are considered with elementary schools for budget purposes, it would be wise to have all such matters pass through the one office.

The change gives Dr. Straubenmuller more time for the revision of the curriculum in the elementary schools. Aside from his duties as chairman of the curriculum revision committee, Dr. Straubenmuller has charge of the supervision of the training schools, the continuation schools, school gardens,

(Concluded on Page 88)

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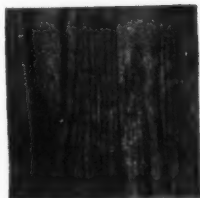


Car-Na-Var at a cost of 1/3c per sq. ft. per year protects and beautifies \$10,000 worth of linoleum for the Creamery Package Mfg. Co., Chicago

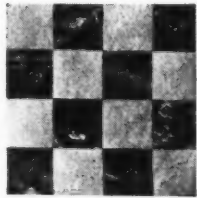
can be repaired without showing overlaps. Comes in "natural" and popular colors. Car-Na-Var in color eliminates a separate application of stain.

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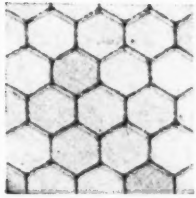
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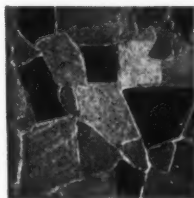
Wood (Car-Na-Var)



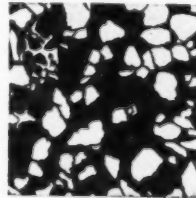
Linoleum (Car-Na-Var)



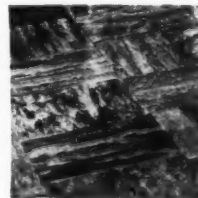
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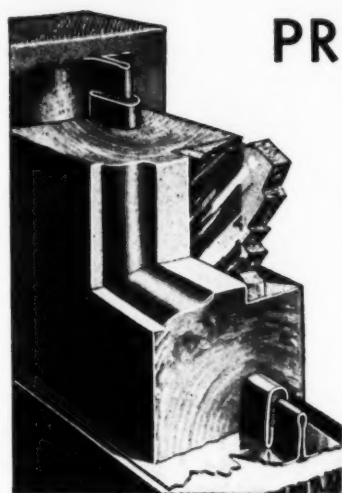
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(Concluded from Page 86)

school libraries, and visual instruction. He is a member of the committee on law of the board of superintendents.

In addition to directing elementary-school organization, Mr. Mandel is chairman of the committee on law, and handles all legal matters for the board of superintendents.

♦ MR. FRANCIS M. PRICE, 62, assistant superintendent of schools of Fort Wayne, Ind., died recently at his home in that city, after a long illness culminating in a stroke of apoplexy. Mr. Price had been connected with the Fort Wayne schools since 1907, going there from Sullivan, to become principal of one of the grade schools. In 1918, he was appointed assistant superintendent of schools.

♦ MRS. MARTHA HAWLEY ANGELO, who was a teacher for 52 years in the schools of Lincoln, Nebr., died in that city on October 9, at the age of 75. Mrs. Angelo retired from teaching in 1927 because of ill health.

Mrs. Angelo began her teaching career in a country school near Yankee Hill, in 1877. Later she moved to Lincoln, where she began teaching under W. W. W. Jones, the first city superintendent of schools, with a certificate issued by Prof. Alexander McKenzie, the first state superintendent. Among her classmates while she was attending the State University were Charles G. Dawes, ambassador to Great Britain, John J. Pershing, and Roscoe Pound, now dean of the Harvard Law School.

♦ MR. C. M. YODER has been appointed as president of the State Teachers' College at Whitewater, Wis. Mr. Yoder succeeds Mr. F. S. Hyer, who has gone to the Stevens Point Teachers' College.

♦ MISS ELIZABETH SCRIPTURE, of Minneapolis, Minn., has been appointed supervisor of public-school libraries of Denver, Colo., succeeding Miss Hazel Hutchins.

♦ MR. R. H. THOMAS, formerly assistant superintendent, has been elected superintendent of schools at Harrisburg, Pa.

♦ MR. J. A. TRUE, of McCook, Nebr., has assumed his duties as superintendent of schools at Council Bluffs, Iowa.

♦ MR. L. D. HENDERSON has been elected district school superintendent at Burlingame, Calif.

♦ MR. F. R. MOREY has been elected supervising principal of schools at Swarthmore, Pa., succeeding A. W. Ferguson, who has gone to York.

♦ MR. W. W. RAKER, formerly superintendent of schools at Bloomsburg, Pa., has become a member of the faculty of the State Teachers' College, Kutztown, Pa.

♦ DR. OLIVER P. CORMAN, associate superintendent of schools of Philadelphia, died recently, at the age of 64.

♦ MR. GUY WHITEHEAD, superintendent of schools at Lexington, Ky., died recently, at the age of 67.

♦ MR. K. R. PATTERSON has been reelected as superintendent of schools at Mayfield, Ky.

♦ MR. A. T. GRAY, of Fayette, Iowa, has been elected superintendent of schools at Frederika.

♦ MR. G. M. LINDSEY has resigned as superintendent of schools at Adrian, Minn.

♦ MR. OSCAR S. WOOD has been appointed chairman of the division of education and psychology for the University of Denver.

♦ MR. WILLIAM MCGREGOR, accountant for the school board of Seattle, Wash., died at his home on June 29, after a brief illness. Mr. McGregor was 56 years of age.

♦ The school board of Hartford City, Ind., has reorganized, with the election of DR. T. C. DODDS as president, MR. JAMES WILLMAN as secretary, and MR. IRA ELZEY as treasurer.

♦ MISS MAE T. KILCULLEN, formerly assistant superintendent of schools at Elgin, Ill., has accepted a position at Kenosha, Wis., as director of the work in the elementary, junior high, and senior high schools.

♦ MR. R. W. FAIRCHILD, formerly superintendent of schools at Elgin, Ill., has accepted a position on the staff of the School of Education of Northwestern University, as director of the work in the administrative field. Mr. Fairchild has been teach-

ing classes in school administration at the University for the past three summer sessions.

MR. THEODORE SAAM has succeeded Mr. Fairchild as superintendent of schools at Elgin.

♦ SUPT. J. H. SMITH, of West Aurora, Ill., has resumed his work in Aurora, after a year's leave of absence spent in completing his graduate work leading to a Ph.D. degree at Teachers College, Columbia University.

♦ SUPT. A. B. ROWELL, of Glencoe, Ill., has returned from his recent European tour, during which he made an extended study of certain phases of European education.

♦ MR. ALFRED E. STANDISH has been reelected as supervisor of schools at East Windsor, Conn., for a fourth consecutive term. During the administration of Mr. Standish, the high-school enrollment has more than doubled. The annual report for this year stressed the value of supervision and the distribution of costs of the public schools.

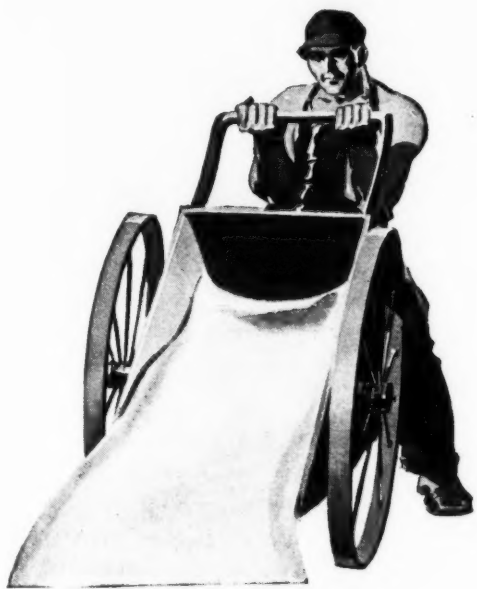
♦ Dr. George B. Selke, president of the St. Cloud Teachers' college, was the dedication speaker at the opening of the \$150,000 Lincoln High School, Lake City, Minn. The official presentation was made by George Pass, architect, and acceptance by Dr. G. Schmidt, president of the board of education. Supt. W. A. Andrews presided.

♦ GEORGE A. DAVIS has been a member of the board of education, of Grand Rapids, Mich., for 25 consecutive years.

♦ ELMER E. COOK has been chosen principal of the new Thomas Jefferson school at South Bend, Ind.

♦ A portrait of James F. Taylor has been presented to the school board by the 1930 graduating class of the Denfeld High School of Duluth, Minn. The portrait was hung according to the suggestions of the committee on schools.

♦ SUPT. J. O. CHEWNING, of Evansville, Ind., has been reelected for a new five-year term. Mr. Chewning's contract has two more years to run, and the new contract goes into effect August 1. It was given in recognition of the fine service rendered by Mr. Chewning during his long period of work with the local schools.



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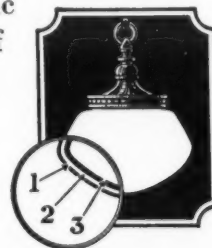


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Book News and Reviews

PLANNING SCHOOL-BUILDING PROGRAMS

By N. L. Engelhardt and Fred Engelhardt. Cloth, 574 pages. Bureau of Publications, Teachers College, Columbia University, New York City.

The tremendous advance made in the school architecture of the United States has received its strongest impetus at the hands of the educator rather than the architect. The thought that a school must be fitted into a structure has given way to the belief that the structure must be fitted to the school, its ideals, its operations, and its objectives.

The Engelhardts have fostered this conception of a school structure and have from time to time bared the fundamentals that must be recognized if education is to be provided with efficient and utilitarian housing.

The present volume enters into the subject of planning school-building programs with exceptional thoroughness and makes clear the essential considerations involved in a progressive approach to the subject. Every phase of the same is handled in a comprehensive manner.

The authors begin at the beginning by discussing the matter of population, expansion and growth, changes in school areas, and the like. Diagrams and tables bring out in graphic form the tendencies observed and recorded in typical American cities. They enter also into the things which are peculiar to growing communities, such as the character of enrollment, the maintenance of parochial schools, etc.

The question of forecasting population enters largely into planning of schoolhouse programs. On this point the authors say:

"The forces affecting population are quite complex and intricate and have been very difficult to analyze or measure accurately. However, the prediction of many of the factors which produce changes in number of inhabitants living on a given area appears to be more or less possible. The forces at work today have, no doubt, a relationship to those which operated in the past and will in all probability be determining factors causing population change in the future."

The significant factors in school-site selection are brought to the surface. It is contended that the site program is distinctive from that of the actual building program. It is one thing to plan a building correctly but it is quite another thing to locate it advantageously. Here the Engelhardts say:

"The lack of foresight in securing adequate sites for school buildings has been a fault not only in the larger and older cities, but also in the small cities and even in communities of comparatively recent growth. To be sure, the desire under pioneer conditions to have the school near the home, the frequently impassible condition of roads and sidewalks, and the limitations of the educational undertaking were deciding influences in site selection. Local autonomy also tended toward an unrestricted disregard of commonly accepted standards. As communities have expanded, sentimental traditions have centered about the early schools and their sites. This commendable indication of faith in the common schools has often made it difficult to vary from the earliest standards and to change to a site which conformed to the expanding needs of education."

The actual approach to the site deals with size and form as well as with the question of accessibility by a pupil constituency. Attention is called to the fact that the site question also brings into consideration the health problem—or rather the play problem as applied to school grounds. In connection with site selection the landscaping of school grounds, athletic fields, and traffic considerations must be taken into account to a greater extent now than in former years.

The authors reflect in their discussion of sites the present tendency to judge a school site favorably because of its great size and to think that extensive acreage is desirable for grade and high schools whether the educational program demands it or not. The time will come when the test of use will be applied to playgrounds as it is to auditoriums and other teaching spaces, and when play and practice periods will be arranged to increase greatly the percentage of utilization both in the matter of time and area. There is today a vast economic loss in oversize school grounds just as there is an educational loss in undersize school grounds.

BOOKS AND EDUCATORS

I believe that the first and most important task in educating the American public to the values and uses of books is to educate the educators, to persuade them to read and own a few books, infuse them with some understanding and enthusiasm for the main functions of their profession. To accomplish this will not be much easier than to solve the problem of raising oneself by one's own bootstraps; but certainly it must be done if books are to take their rightful place in this democracy. — W. T. Couch.

The modern schoolhouse, too, involves utilities not thought of in a former day. Thus the factors affecting utilization of schoolhouse space come into serious play and those entrusted with the planning of a structure must primarily be clear as to the specific activities to be housed. More than that: There must be no waste space and the orientation of the interior must be such as to facilitate in the highest degree the objectives in hand. Just here it seems that the authors do not stress sufficiently the economies possible in more careful selection of materials, in the preparation of designs which eliminate wasteful ornamentation—towers, high roofs. They do call attention to waste in elaborate ventilating and other mechanical equipment which lies idle the year round.

The authors also provide a chapter on school-building standards so far as these can advantageously be adhered to. While standardization has its merits, it also has its limitations. The authors say: "School buildings have a long service life, and errors of judgment or faulty standards in construction will handicap the schools for a long period of time. Inflexibility of control has been one of the

faults of standardization. With it is usually an inertia which stifles progress and deadens initiative. This is destructive to growth in a democratic government. The state authorities must recognize this fact in all relationships with local schools. There must be flexibility of program and recognition of the desirability of allowing the competent to reach out in advance to try new things. Local communities should be encouraged to study their school problems scientifically under trained leadership, and the state authorities should cooperate and lend assistance. Intelligent progressive consideration of building needs must be assumed by the leaders of the state, if responsibilities are to be properly carried. There will be no danger in state supervision under such circumstances."

There is no denying that architectural service is a dominant factor. If the guiding factors in schoolhouse planning and building are serviceability, durability, and beauty, then, too, "there must be no conflict between educational planning, structural designing, and architectural designing."

Great stress has been laid in recent years on the educational service, or rather an appreciation of the educational service which enters into the making of a utilitarian structure. The authors, recognizing the logical procedure from the inception of a structure to its ultimate completion, give considerable thought and study to this phase of the subject.

Those concerned in the question of cost will find that the book goes into considerable detail as to cost per room, per cubic foot, per pupil, and the like. The matter of financing school-building programs is dealt with considerable completeness. There come into the picture the tax ability of the community, bond issues, and the propaganda labors to be engaged, in order to secure public approval for the project in hand.

There is in the book much that is debatable. One might question some of the educational practice which is lauded; most of the cost items have been made obsolete by recent changes in building and equipment prices; publicity ideas like those advocated may have been useful in a year of prosperity, but will contribute to the defeat of a project in a year of economic and industrial depression; the school survey that goes far beyond a building study is not the potent instrument that it was a decade ago.

Each chapter is followed by a bibliography on the specific phase of the subject treated. The appendix deals with the state provisions relating to schoolhouse construction.

Elementary Training for Business

F. A. Wilkes, G. M. York, and C. J. Terrill. Cloth, 352 pages. The Ronald Press, New York, N. Y.

This book is intended to serve three groups of pupils, namely those who wish to explore business training, those who must leave school at an early age, and those who expect to continue with the commercial course. The authors approach their task with years of actual classroom experience.

The student is initiated into three types of commercial service. He is taken, for instance, into the office of an insurance company. He is told about business in its general application, and about insurance as such. Under this heading he is initiated into all the mysteries which pertain to insurance. In fact, the mysteries fade in a clarified understanding of what insurance really means and how its work is conducted.

The student is also taken into a manufacturing plant and put through a course of study as a receiving clerk, as a stock clerk, and as a shipping clerk.

A series of chapters tell the student of his duties in several capacities of a wholesale house. There are the duties of entry, order, billing, and payroll clerks. There is the work of the cashier at the desk, the assistant in the general office, and assistant to the general cashier. Promissory notes, drafts, and trade acceptances are explained.

The book is well illustrated. There are also blanks and forms such as are employed in the actual business world.

Transfer of Training in Spelling

By Clifford P. Archer. Bulletin No. 5, Series No. 180, June, 1930. Published by the University of Iowa, Iowa City, Iowa. The purpose of this study was to determine the effect of the study of words upon certain derived forms, and upon the base words. The study included such factors as grade,

(Continued on Page 93)

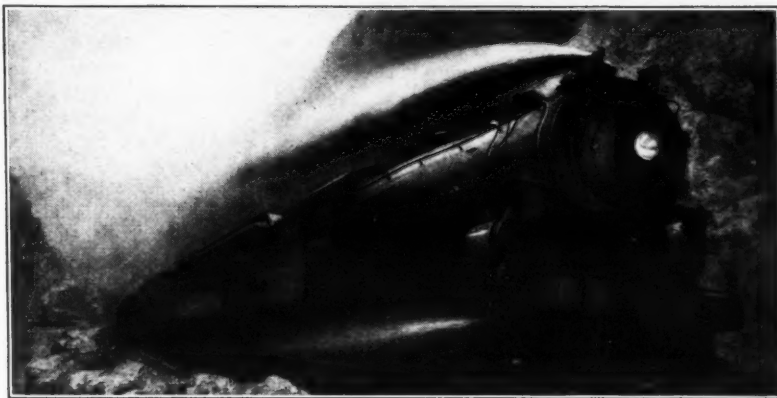


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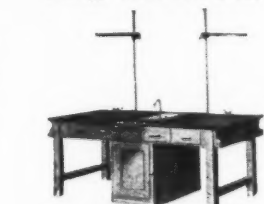
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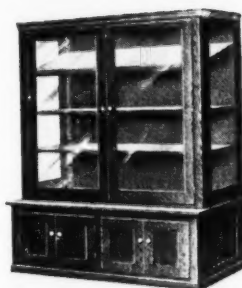
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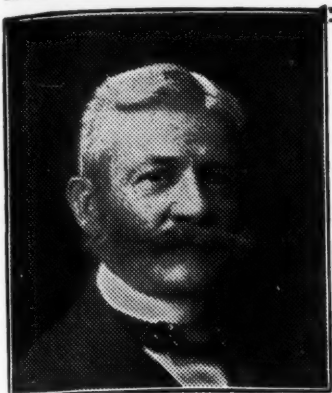
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(Continued from Page 90)

sex, intelligence, nationality, and word difficulty upon transfer where it occurred.

As a result of the study, it is brought out that the closer the similarity of forms the greater the transfer. There should be a place reached where the element in common becomes so small that transfer takes place only occasionally, or to a small extent. It is evident that, as words become more dissimilar, positive transfer becomes less and less; but the negative transfer may increase at the same time, reaching its maximum when the greatest conflict in principle of construction is reached, or when the words have many similar sounds but different spelling.

Economy in Public-School Fire Insurance

By Harvey A. Smith, Ph.D., 113 pages, cloth bound. Published by Teachers College, Columbia University, New York City.

Here is a compact study on fire insurance as applied to school property. The purpose of the study is "to discover economical, and at the same time, safe methods of insuring such property against fire." While the study concerns itself more particularly with the problem as found in New Jersey, its findings may find a wider appreciation.

After discussing the theory of insurance, the author deals with policy forms and the terms upon which insurance contracts are based. The essentials of an appraisal are made clear, also the meaning of coinsurance clauses and the conditions that enter into them.

The value of case studies is explained, followed by a summary which holds that great saving in annual premiums is made where an intelligent approach to the insurance problem is made. The author contends that the efficient conduct of school fire insurance demands that the following conditions be met:

1. An accurate appraisal of all school property so that insurable values may be established.
2. A thorough examination of the schedule rating sheets of the school buildings owned by the district and the elimination of all unnecessary charges in the rates.
3. Arrangement of expiration dates of insurance policies so that approximately the same amount of

insurance expires each year, thus equalizing the insurance budget.

4. Periodic inspection of all school property so that fire hazards may be reduced to a minimum.

5. Adequate insurance records kept in terms of both buildings insured and policies carried.

Series Lessons for Beginners in Spanish

By E. E. Brandon and Daniel DaCruz. Boards, 168 pages. Price, 96 cents. The Bruce Publishing Company, Milwaukee, Wis.

This series of elementary grammatical and composition exercises is based on the direct method. The subjects of the lesson are everyday social activities and personal interests. The language is especially well chosen to emphasize a basically necessary vocabulary. The grammatical constructions are repeated sufficiently to familiarize the students with their correct applications in a variety of situations.

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How the World is Fed

By Frank B. Carpenter. Cloth, 384 pages, illustrated. Price, 96 cents. American Book Company, New York, N. Y.

To know the story which tells us where our food is raised, and by whom, where it is grown and prepared, and what our main food products really are, is in reality a part of man's education. In brief, it is well to know how the human family is fed, where and how food is provided.

With this thought in mind the author, who has made many fine contributions to the educational literature of his time, has written the book before us.

He tells about the grain that goes into bread, the animal foods that provide substance for man's table, and the dairy products, fish and fowl, vegetables and fruits that add to man's sustenance. In telling of these things he travels into many countries and brings to the surface the interesting things in the production and preparation of food. On the whole, the latest Carpenter book is instructive and highly acceptable.

Decas, the Indian Boy of Santa Clara

By Genevra Sisson Snedden. Cloth, 152 pages. D. C. Heath and Company, Boston, Mass.

With the help of this reader, any third- or fourth-grade pupil may live the daily life of an average Indian boy. He will visit the village, strike flints for a fire, see the preparation of a meal, attend a grasshopper hunt, and play "teekel" with the Indian youths. The annual acorn festival and its dance of four days' duration will linger in the child's memory long after the exact words of the text are forgotten. The Indians' amazement at seeing a white man for the first time is vividly portrayed, and life at the Mission is described in detail. The first church built with hand-made bricks and the visit of Father Junipero Serra are related as momentous events.

Historical accuracy, vivid-picture stories, and short, simple sentences present throughout this illustrated reader, will win the young pupil's imaginative mind and lead him on to further knowledge.

Stories of Animals and Other Stories

By Margaret L. White and Alice Hawthorn. Cloth, 261 pages. Published by the American Book Company, New York, N. Y.

This is the second book of the *Do and Learn Readers* series. The publishers in the production of these books have brought to their service authors and artists who have a fine discrimination in the preparation of children's books.

The aim apparently is to make reading a pleasure by making the books attractive and pleasing in the eyes of the child, and to invest them with the choicest texts.

There are interesting stories about animals, about bird life, about Indian children, about games and pastimes, excursions into the fairy world, and the like. The illustrator travels along with every story and incident, and adds much to the joy of the reader.

The large amount of reading material and the variety of topics touched upon reflect rather well the high standards set by the authors for the second grade.

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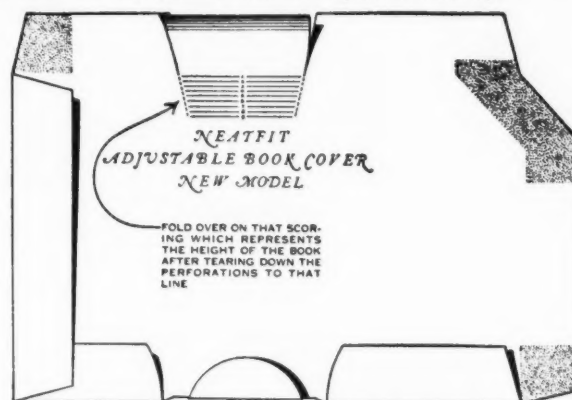
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Hero Stories for Children

By E. A. Collins and Lyda Hale. 272 pages. The Macmillan Company, New York, N. Y.

The carefully written sections of this book relate incidents and achievements in the lives of great leaders and heroes—the leaders of the Hebrews, three kings of European nations, and explorers and pioneers in American life. The second half of the book is historically valuable, but the section devoted to the Hebrew heroes leaves the reader quite cold. To tell the stories of Abraham, Moses, Joseph, and David as purely historical events is to take out of them the flavor of the biblical account as well as their essential significance. The study helps and tests at the close of each section give the book quite a schoolish flavor.

Interesting Things to Know

By Margaret L. White and Alice Hawthorn. Cloth, 296 pages, illustrated. Published by the American Book Co., New York.

In this third reader both prose and poetry have been selected for originality, child interest, informational value, and freshness. The book assumes that the children have mastered the mechanics of reading and that they are now ready to gradually increase the amount of silent reading, to enjoy what they read, and to derive information from the printed page. The illustrators, Sue Runyon and Ruth Bennett, are to be commended for the attractive work done in enhancing the interest and value of the book.

The Wonder Road

Book I, Familiar Haunts. By Edwin Diller Starbuck. Cloth, 214 pages, illustrated. Price, \$1.80. Book II, Enchanted Paths. By Edwin Diller Starbuck and Frank K. Shuttleworth. Cloth, 210 pages, illustrated. Book III, Far Horizons. By Edwin Diller Starbuck and Frank K. Shuttleworth. Cloth, 266 pages, illustrated. Published by The Macmillan Company, New York City.

Sixty-three fairy tales taken from the folklore of the entire world are presented in these beautifully printed and charmingly illustrated books. Someone has well said that fairy tales interest

children and even mature people because there is in the human race an unconscious yearning for perfect happiness in life. Fairy tales are a reminder from the time when man was perfect, and their interest and charm lie in the fact that they give man a glimpse of that happy day before the fall. Educators have long realized the value of fairy tales for widely different educational objectives, and no school library is complete without its well-chosen selection of fairy tales.

The first of the present books, *Familiar Haunts*, repeats the most familiar fairy tales of such authors as Grimm, Anderson, Hawthorne, and lesser-known American writers. *Enchanted Paths* are entirely taken from modern authors, as are also the tales in *Far Horizons*.

Ways to Teach English

By Thomas C. Blaisdell, Ph.D. Cloth, 566 pages. Price, \$2.50. Doubleday, Doran and Company, Inc. New York, N. Y.

Used as a basal text for teacher-training courses, this book of English methods will accomplish much. It will orientate the student or new teacher, while offering different and original classroom procedures to the experienced teacher. No single detail of instruction, no phase of the subject—grammar, poetry, narrative, essay, drama—has been omitted or elided. Comprehensive extracurricular work for student research is included in the form of completion tests and exercises at the end of each chapter; in addition, five appendixes of teaching material, together with a complete bibliography of associated works, are included at the end of the book.

Orleans Plane Geometry Achievement Test

By Joseph B. Orleans and Jacob S. Orleans. Price, per set, \$1.20. World Book Co., Yonkers, N. Y.

These two tests in two forms each will provide the final examinations for the end of the first and second semesters of a high-school course. The tests have not been standardized but have been tried out with excellent results for reliability and validity.

Advanced Biology

By Frank M. Wheat and Elizabeth T. Fitzpatrick. Cloth, 568 pages. Published by American Book Co., New York.

This carefully balanced text is intended for the last year of high schools and will not be unattractive for freshman college classes. While it follows the style and spirit of a high-school text, it is not without a strong leaning to the mature and even technical consideration of facts and principles. The emphasis is on human welfare—with rather the personal element in the foreground and only casual references to civic and economic applications. The historic development of theories and present views is fully described, but the authors are not always sufficiently clear and emphatic in the statement of objectives to and insufficiencies of many controversial matters.

Junior American History Test

By Harry J. Carman, Thomas N. Barrows, and Ben D. Wood. Price, per set, \$1.30. World Book Company, Yonkers, N. Y.

These tests have been developed for seventh- and eighth-grade use and are intended to measure both the reasoning ability of students and their accuracy of information. The tests are not standardized, but will serve well for semester examinations.

Practical Mathematics

Part II. Algebra. By C. I. Palmer. Cloth, 218 pages. Price, \$1.25. McGraw-Hill Book Company, New York, N. Y.

This third edition of a widely used text has been revised on the basis of present-day industrial needs as expressed to the author by students, teachers, and others who have used the earlier editions.

Playmates. Book II.

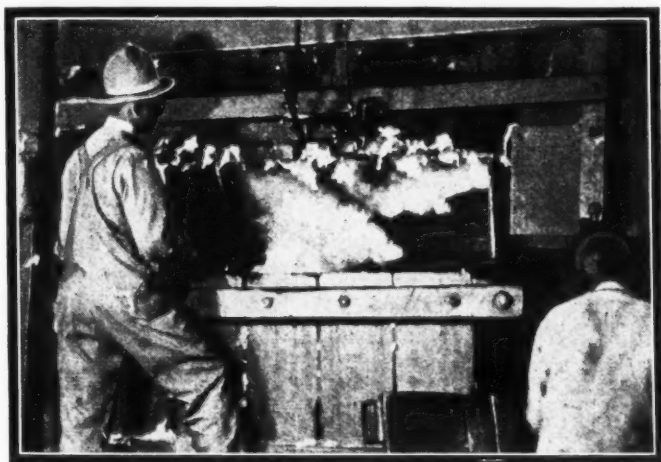
By Mollie Weiss. Cloth, 106 pages. D. C. Heath and Company, Boston, Mass.

This second reader contains stories dear to every child's heart—the rescue of a dog from the pound, a stolen watermelon feast, pulling a loose tooth, a night in a cave with tramps, Halloween pranks, and a vigil for Santa Claus are only a few. All

(Concluded on Page 96)

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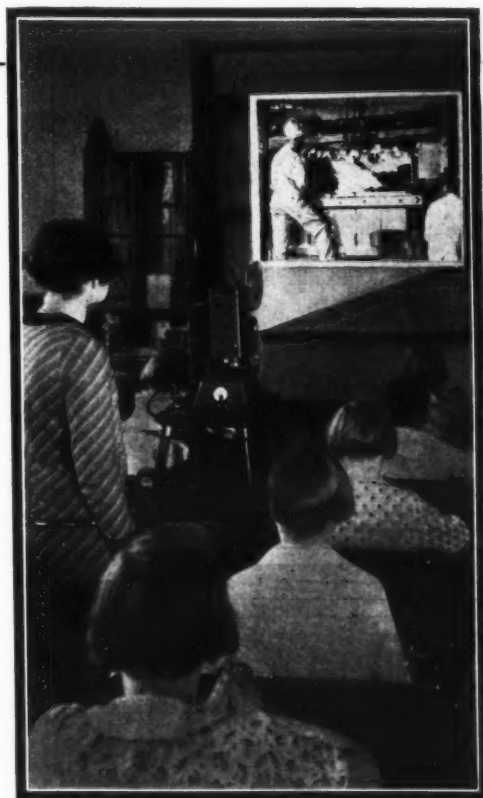
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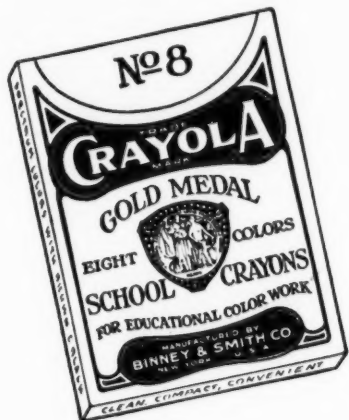
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teachers is spent to the very best advantage. In fifteen interesting minutes the class receives a mass of new facts and ideas, presented in sharp, concrete, understandable form. The remainder of the instruction period—the larger part of it—can be counted on for the vitally important work of review, correlation of ideas... *integration*. Thus the teacher, far from being replaced by this new teaching method, attains a larger and more vital capacity, because she has more time to shape the thinking of her pupils.

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(Concluded from Page 94)

the common experiences of childhood are related; also dangers usually incurred by willful children, together with a moral lesson at the end of each. Little poems based on youthful joys and follies and many full-page illustrations remove any possible monotony from this reader format.

A Personnel Study of 10,000 Iowa High-School Seniors.

By Joseph R. Gerberich. Bulletin No. 3, Series No. 177, April, 1930, issued by the University of Iowa, Iowa City.

A report of the Iowa high-school survey of 1923, conducted under the direction of Dr. G. M. Ruch and Dr. George D. Stoddard. The purposes of the study were to discover the gifted high-school graduate, to determine the selective factors in operation between high-school graduation and college, and to render service to the administrators and parents in laying the basis for a more scientific approach to the problems of vocational guidance.

The survey revealed that there are marked differences among the high-school senior groups participating in the survey, as well as between individual pupils. The larger schools were definitely superior to the smaller ones in achievement on the tests of the survey battery. Differences between high-school seniors and college or university freshmen were slightly in favor of the college group in performance. However, those seniors of the survey who attended the University were quite markedly above the median of the survey pupils and of the entering freshmen at the University, an indication that selective factors do operate between graduation from a survey school and entrance to the University. The prediction of scholastic success in college was based on the survey of pupils who had attended the University. For prediction of the first semester freshman grades, the composite ratings on the survey give correlations of .50 and .54 for the earlier and later batteries respectively. These correlations are significantly higher than the majority of those obtained with intelligence tests alone. Probability tables of scholastic success in the first semester of freshman attendance at the University indicate

clearly that decile ranking on the entrance examinations gives a reliable basis for grade-average prediction. The indication is that probability tables of college scholastic success founded upon high-school testing approaches closely the prognostic power of college-entrance examinations.

The results obtained have two uses—as a basis for more scientific educational guidance at the high-school and junior-college levels, and as significant data for use in formulating future policies relative to testing of the type utilized in the survey. The success of the survey in accomplishing the aims set up indicates that it has potentialities for future development as a tool for guidance use.

PUBLICATIONS RECEIVED

Minnesota Reading Examination for College Students. Form A. By Melvin E. Haggerty and Alvin C. Eurich. Price \$6 per hundred. Published by the University of Minnesota Press, Minneapolis.

The test consists of (1) a vocabulary test built up of one hundred words which are essentially a part of the vocabulary of an educated American; (2) a silent-reading test made up of brief paragraphs followed by questions of the true-false and completion types. The test has been tried for validity and reliability, but has not been standardized.

Manual for Determining Equivalence of Mental Ages From Group Intelligence Tests. By Ross O. Runnels. Bulletin No. 2, Test Method Helps. Issued by the department of research and test service of the World Book Company, Yonkers, N. Y. This manual is intended to provide an improved method of measuring human abilities and achievements. It furnishes tables of mental-age norms which are equivalent to five widely used group intelligence tests, and which are an improvement over the techniques used originally by the author in determining mental-age norms which are comparable with each other. The tables will be found useful in avoiding the fluctuation usually found where two different tests are used.

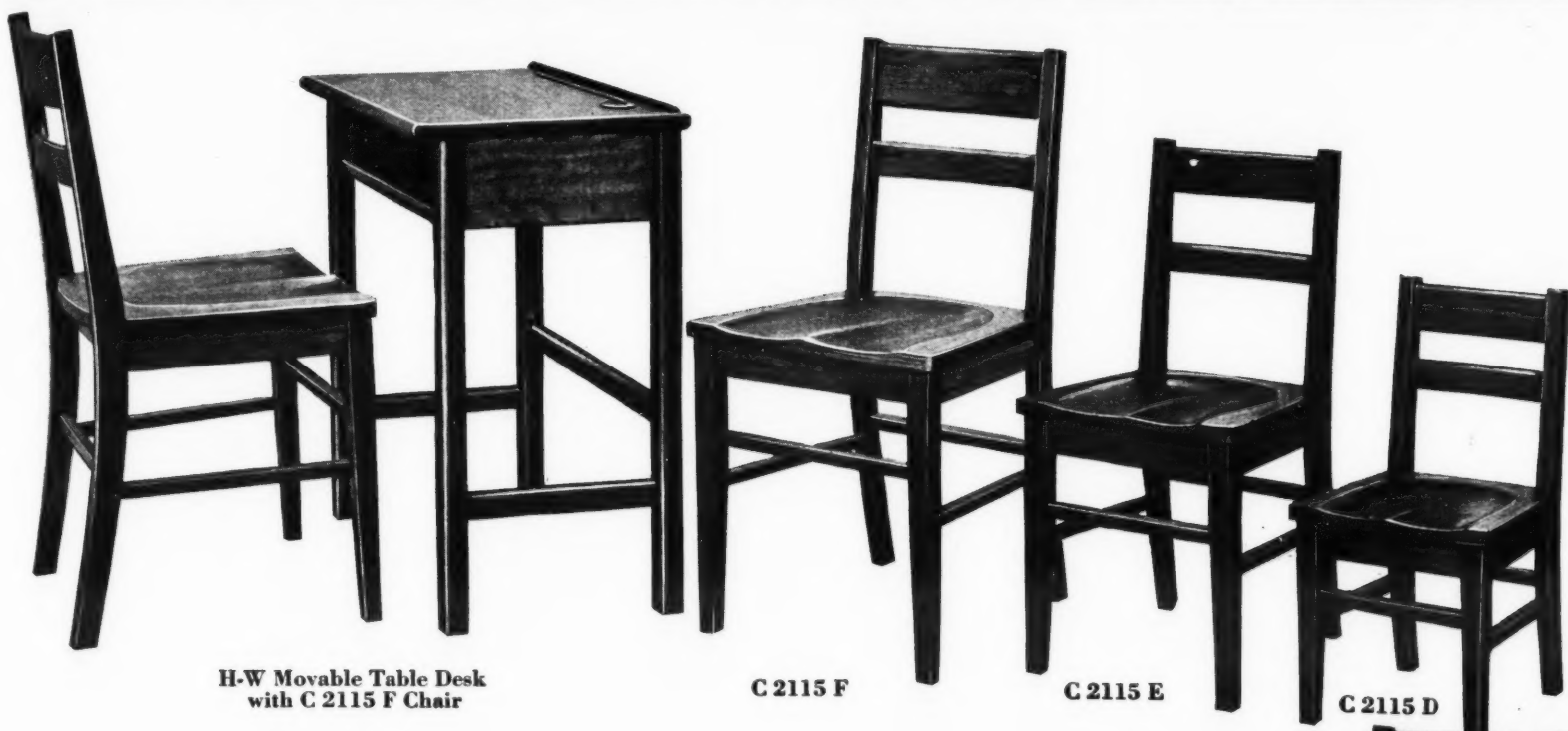
A Graphic Presentation of Statistics of Illiteracy by Age Groups. By James F. Abel. Bulletin No. 12, April, 1930. Issued by the U. S. Bureau of Education, Washington, D. C. The present pamphlet aims to present four examples of statistics of literacy and illiteracy by age groups, and to indicate the advantages and uses of such data. It offers a graphic method of presentation so that they may be quickly and easily understood.

Juvenile-Court Statistics for 1928. Paper, 76 pages. Price, 10 cents. Published by the Children's Bureau, U. S. Department of Labor, Washington, D. C. The second annual report of juvenile-court statistics, compiled from information supplied by 65 courts cooperating with the Children's Bureau in a plan for obtaining uniform statistics for delinquency, dependency, and neglect cases.

Diploma Practices in Secondary Schools. Bulletin No. 32, 1930, Department of Secondary-School Principals, National Education Association. The present pamphlet is a report of a study of the practices with respect to school diplomas. The data was obtained from a questionnaire addressed to 500 members of the department, and from which 320, or 64 per cent returns were received. The study covered standardization, kinds of diplomas, cost, mechanical aspects, wording, and types. The study revealed that more than 94 per cent of the schools reporting used a standard form of diploma for a period of years. This fact furnishes evidence of satisfaction resulting from the use of the same form over a long period of time. The evidence showed that different diplomas are awarded upon the completion of varying courses of study in many schools. The differentiation between the curriculums of the schools is reflected in the types of diplomas conferred. The cost of diplomas varies greatly. In schools enrolling less than 250 pupils, the average cost is \$1.81, while in schools of over 2,000 enrollment the cost is only \$0.62. It was found that the cost of the diplomas decreases as the size of the school increases. The size of diplomas shows a wide variation in practice. Forty-seven schools, or less than 16 per cent, use diplomas of the same size, 14 by 17 in. Below this group, the sizes range from 3 by 5 in. to 24 by 30 in. The largest diploma is 48 times as large as the smallest, and 3 times as large as the model size. The practice indicates that too great extremes of size, boldness of type, and profusion of decoration should be avoided. It was brought out that the controlling factors in the wording of the inscription should be good diction, simplicity of style, and accuracy of text matter.

Trade Practice Rules of the Public Seating Industry. Paper, 30 pages. Issued by the Federal Trade Commission, Washington, D. C. The rules have been prepared as a means of eliminating unlawful and unfair practices in the seating industry. It aims to improve conditions within the industry and to eliminate waste and costly inefficiencies through a strict observance of the rules.

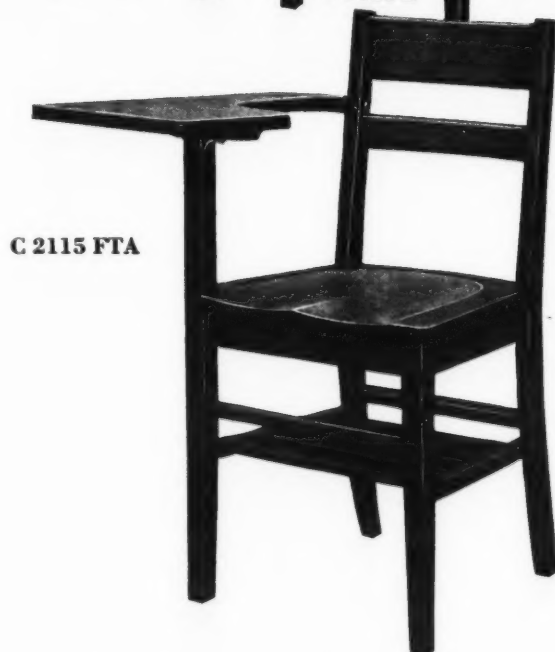
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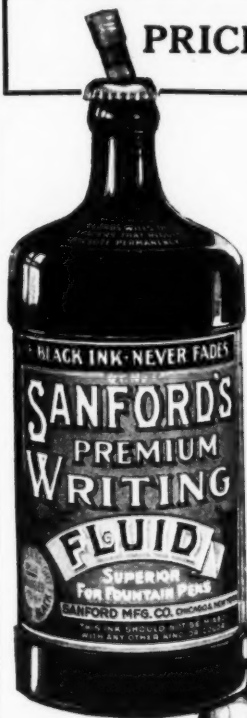
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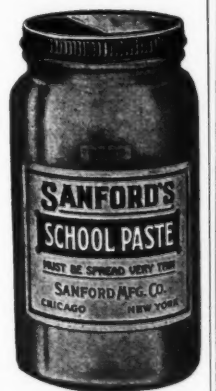


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SCHOOL FINANCE AND TAXATION

NEW YORK CITY SCHOOL BUDGET SUFFERS RADICAL REDUCTION

Director of the budget Charles L. Kohler has recently recommended cuts from the New York City school budget of approximately \$1,000,000 which, if carried out by the board of education, will affect the entire retardation program of the board for the year 1931. The budget director has tentatively vetoed in whole, or in part, appropriations for 110 additional teaching positions, for the establishment of ungraded classes, for adjusting salaries of junior-high-school principals, for establishing a summer evening high school, and for extending vacation playground activities.

One of the drastic cuts was made in the provision to add 200 teachers to the elementary-school force in order to reduce the size of classes. It was recommended that only 90 such positions be allowed. This, if carried out, will impede the unemployment-relief program of the board, which was planned to reduce the number of pupils per teacher, and to cut the size of the list of unemployed.

A \$15,000 item for the adjustment of the salary of the junior-high-school principals was entirely eliminated.

FINANCE AND TAXATION

♦ The school board of Kent, Ohio, has adopted a budget for the school year 1931, calling for an appropriation of \$173,555, which is a decrease of \$6,000 from that of last year. The school board has asked the voters to approve a 3-mill tax levy at the November election.

♦ The state tax commission, in its annual report for the year 1929, shows that the disbursements of school districts decreased from \$56,772,613 to \$56,411,767 during the year. The total disbursement for education in 1929 was \$66,818,702.

♦ Cairo, Ill. The public schools have been carrying a heavy indebtedness for several years. The tax rate which had been sufficient to maintain

the schools was not adequate for the paying off of this indebtedness. Last spring the citizens voted an increase of 75 cents in the tax rate, which is now sufficient to pay off the current indebtedness within four years' time.

♦ Kalamazoo, Mich. The school board recently sold to a Chicago banking concern \$455,000 in refunding bonds of the school district, at an interest rate of 4 1/4 per cent per annum, par value, and a premium of \$3,358. The proceeds of the bonds were used to pay bonds on new schools maturing in September, 1930, and interest accruing on the bonds.

♦ The Boston school board has fixed the tuition fees for the current year as follows: high schools, \$170; elementary and intermediary schools, \$112; evening high school, \$27; elementary evening school, \$30. In view of the unemployment situation the Boston school board will push its several new school-building projects and get them under way as early as possible.

♦ Evansville, Ind. The school board has adopted a school-tax levy of \$1.05, which includes 60 cents for tuition and 45 cents for the special fund. In addition, there is a 25-cent tuition tax and a 75-cent special poll tax, making a \$1 poll tax.

The board has adopted a budget of \$1,832,504, which represents a decrease of \$48,861 from that of last year. The school revenue amounts to \$1,597,000.

♦ Racine, Wis. The school board has adopted a budget of \$1,383,875 for the school year 1931, as against \$1,447,999 for last year. Of the total amount, \$1,144,354 will be obtained from the city, while the balance will be met by the state tax and other receipts. The budget represents a saving of \$105,950 over that of last year. A reduction in operating expenses was effected, amounting to \$64,124, which was made possible despite an increase of \$27,493 in teachers' salaries.

♦ The Minneapolis board of education has negotiated a million-dollar loan with local banks, at 4 per cent, payable December 31, 1930.

♦ Ravenna, Ohio. The city schools will be operated on a reduced budget during the present school year. The schools will receive a total of \$137,758

this year, exclusive of library funds, which is less by several thousand dollars than the amount which had been originally requested.

♦ Beaver Dam, Wis. The school board has adopted a budget for the school year 1930-31, calling for a total of \$13,595. The estimated receipts are \$30,580, which leaves \$93,015 to be raised by local taxation. The largest item in the budget is \$74,575 for teachers' salaries.

♦ Lansing, Mich. The school board has approved a budget of \$1,168,139 for the school year 1931. Of the total, \$192,966 will be placed in the reserve fund in keeping with a policy of the board to finance all building activities without recourse to bond issues. The board has reduced the school tax rate from \$9.50 to \$8.50 because of the business and industrial depression.

♦ Fostoria, Ohio. The city council and the school board have met the problem of reducing their budgets for the present year. Members of the school board and the city council have agreed to assume equal portions of the necessary reduction in the budgets, which totals \$40,000, or about \$20,000 taken off the respective budgets for 1931.

♦ Aurora, Ill. The east side school board has adopted a budget for the school year 1930-31, which calls for \$70,000 more than the estimated income. A decrease in the estimated income means that a program of rigid economy must be carried out during the next two years.

♦ Duluth, Minn. The school board has adopted a budget of \$549,528 for the next school year, as compared with \$569,853 for last year. The total expenditures are estimated at \$684,604, as compared with an estimate of \$702,786 for 1929.

♦ Lansing, Mich. The budget of the school board for the year 1931 amounts to \$1,168,139, which is a decrease of \$158,022 as compared with last year's budget. The budget includes an appropriation of \$192,926 for new buildings and sites. This is a decrease of \$95,708 for new buildings this year, as compared with the budget for last year.

♦ Manitowoc, Wis. The school board has adopted a budget of \$142,917, as against \$136,811

(Concluded on Page 100)

UNDERWOOD WINS

World's Typing Championship Contest for 25th Year

**George L. Hossfield, World's Champion
Typist, tells how Underwood's
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Once more—for the 25th consecutive year—the Underwood Typewriter has proved its matchless worth, its outstanding leadership! ... In Richmond, Va., September 26, George L. Hossfield, World's Champion Typist in 1918, 1920, 1921, 1922, 1926, 1927 and 1929, won the coveted title for 1930, using the Underwood Standard Typewriter in the 25th Annual International Typewriting Contest. Hossfield, in the one hour contest, faced a fast field and his victory was a triumph for machine and man alike. Only perfect coordination of the human and mechanical factors could have made possible Hossfield's outstanding achievement.

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Other Championships Won on the Underwood At the 1930 International Typewriting Contest

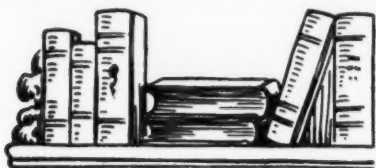
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Conn., at the rate of
114 net words a minute.*

*The World's School
Novice Typewriting
Championship won
by Gladys Mandley,
Orangeville, Ontario,
Can., at the rate of 96
net words a minute.*

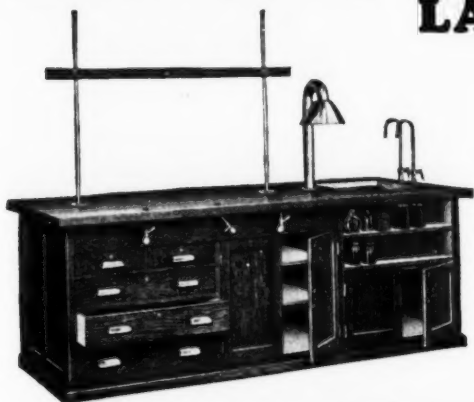
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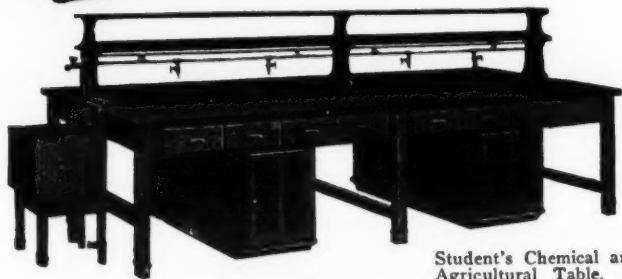


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Student's Chemical and Agricultural Table. A dual-purpose laboratory table. Arranged to accommodate sixteen students. Open space below provides knee room when seats are used.

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Reading Table of improved construction, assuring absolute rigidity . . . legs equipped with brass sockets.



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(Concluded from Page 98)

for last year. The increase is attributed to the increases in teachers' salaries.

♦ West Allis, Wis. The budget of the school board for the school year 1931 has been set at \$826,427, which calls for \$660,427 for maintenance supplies, salaries, and equipment, with an additional \$205,000 for school buildings.

♦ Janesville, Wis. The school board has adopted a budget for the school year 1931, calling for an appropriation of \$310,550. The largest item, instruction, calls for an appropriation of \$232,350, which is an increase of \$3,350 over last year. The teachers' salary item, \$187,000, represents an increase of \$3,000 over that of last year. Practically all departmental supplies showed a decrease in the appropriations. The instruction division showed an increase of \$30,300 in the past three years.

♦ The tax survey completed by Hugh J. Reber and Edwin O. Grifenhagen, for the state of Missouri, concerns itself with the matter of school support. In its list of remedies, designed to overcome the most serious faults of the property tax, it says: "The granting of state aid for education, and possibly other vital local government activities, on a basis which recognizes the difference in tax-paying ability of the various sections of the state, and the practical impossibility in certain localities of meeting with unaided local resources even the lowest standards in education and other government functions."

"The exemption of intangibles, such as bonds, notes, mortgages, and other credits, from property tax and reaching the net income from these forms of wealth through a graduated net income tax."

♦ The new auditorium erected as a part of the school at Silver Lake, Wash., was formally opened by Chairman G. E. Schuberg, of the board of education. A. A. Mykland, county superintendent, was the principal speaker.

♦ At the opening of the new school at Devine, near Pueblo, Colo., Mrs. Lillie O. Baker, county superintendent, was the principal speaker.

♦ Music and oratory characterized the dedication of the new \$135,000 school building at Yorkville, W. Va. Pres. Elwood Frye, of the board of education, presided over the festivities.

BUILDING NEWS OF THE SCHOOLS

NEW SCHOOL BUILDINGS IN MINNESOTA

Activity in the construction of new school buildings in Minnesota was greater last year than in the two preceding years. Samuel A. Challman, director of school buildings for the state educational department has reported that in the urban districts during the past year 38 new buildings have been completed, and 38 other buildings are still under construction. The total cost of the completed buildings foots up \$3,035,324. The total amount of contracts let to date for buildings still under construction totals \$3,362,648. In the rural districts the building activity has been about the same as a year ago. The cost per cubic foot of urban buildings erected during the past year averages 23 cents. This is almost identical with the cost during the years 1928 and 1929. The latest available statistics show 9,186 schoolhouses in the state with a valuation of \$151,988,440. This amount includes both buildings and sites.

HOW THE ST. JAMES SCHOOL SYSTEM WAS IMPROVED

The fact that the high schools of St. James Parish (county), Litcher, La., were inadequately equipped and housed, and were falling below the prescribed standards of the state department, was revealed following a visit of the high-school inspector, Mr. W. A. Sisemore during the spring school term. It was pointed out that, while the classroom results in these schools were of the best, they could not remain very long on the approved list unless the housing conditions were improved and brought up to the standard.

The situation was completely outlined at the commencement exercises by a number of speakers. Committees of school patrons later visited the schools of the Parish and found conditions even worse than they had been reported by the high-school inspector. Due to serious economic condi-

tions in the district there was very little money, and loans could be obtained only at a high rate with collateral. In the face of such discouraging conditions, the school board and patrons asked the taxpayers to vote \$300,000 in bonds for new school buildings and to approve a four-mill maintenance tax for five years. The tax was passed unanimously and the bond issue was won by a 10-to-1 vote.

Radical economies in the business management of the school system and in the handling of the finances of the parish have produced very satisfactory financial conditions. By a very close and friendly coöperation of the police jury and the school board, it has been possible to finance the schools in such a way that in almost fifty years the parish has offered a nine-months' school term.

BUILDING NEWS

♦ The voters of St. Clair Township, of Columbiana county, Ohio, will be asked to approve a \$60,000 school-bond issue at the November election for the erection of a consolidated school near Calcutta. The new school, which will replace seven one-room schools and one two-room school, will provide accommodations for 300 pupils in elementary and junior-high-school grades.

♦ Kent, Ohio. During the summer-vacation period the school board carried out an extensive program of renovation and improvement of school buildings. This work included the renovation of basements and toilet rooms in all of the school buildings, redecoration of classrooms, and painting of playrooms and corridors. The exterior of one building was painted, while another building had extensive repairs to its roof and the chimney was rebuilt.

During the past school year, the school board spent a total of \$5,948 for the maintenance of the school plant and for repairs. While this was an unusual amount for one year, it represented a great deal of work which will not need to be repeated for a number of years.

A good deal of work in connection with the repair and upkeep of the buildings was done by the general industrial students, especially in the making of repairs and in the building of new equip-

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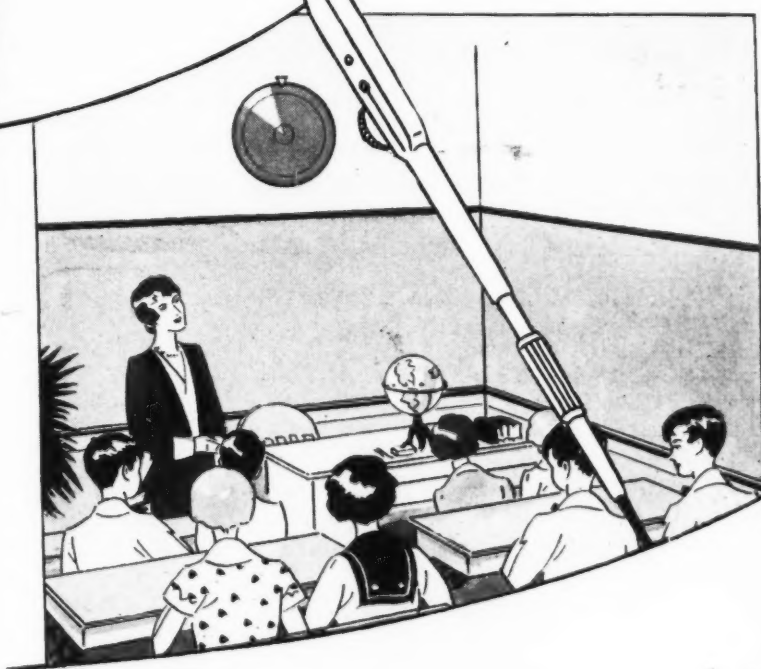
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Tune in the PRESIDENT as your civics teacher

Whenever the President talks over the radio, his message can be heard in any number of classrooms at the same time. The nation's leaders can teach civics to your students, with the Western Electric Public Address System—at the turn of a teacher's wrist.

Radio hook-up is but one of many school uses for Public Address. With this equipment general notices, fire drill orders and special instructions can be transmitted into a microphone right in the school building—amplified to any desired degree and delivered at any number of points. With it an audi-



torium can be so equipped that even the faintest of young voices can be carried to every seat.

However the system is used, reproduction is equally good. Send the coupon for further information, which is sure to be of interest to you.

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Common Brick provides:

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These qualities that can only be had in brick have made it the preferred material for school buildings.

The Common Brick Manufacturers Association offers through its district offices an engineering and consultation service without charge to any locality interested in school construction. If there is no district office located in your city write to the address given below. A brick engineer will advise you without cost or obligation.



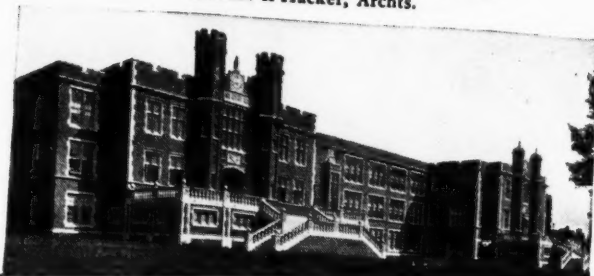
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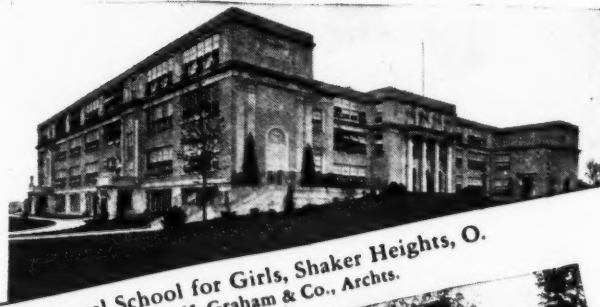
CLEVELAND, OHIO

SCHOOLS

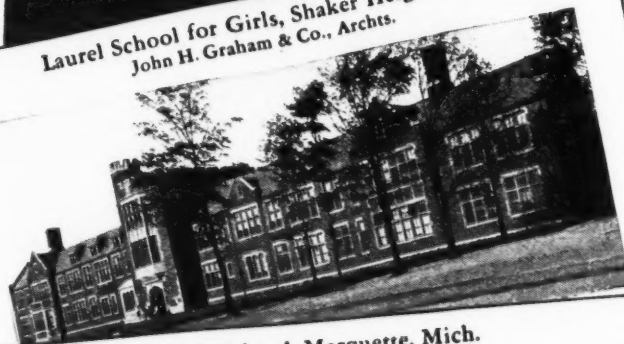
Teaneck High School, Teaneck, N.J.
Hacker & Hacker, Archts.



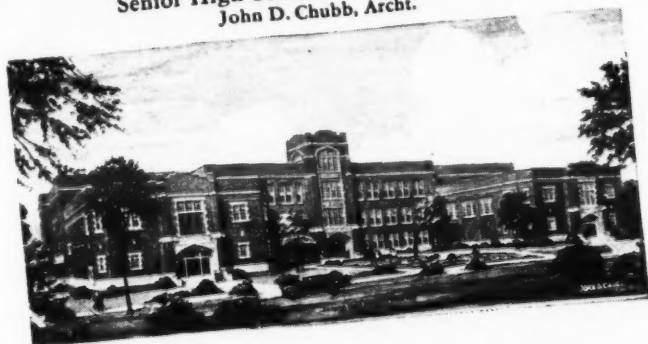
Liberty High School, Bethlehem, Pa.
Ritter & Shay, Archts.



Laurel School for Girls, Shaker Heights, O.
John H. Graham & Co., Archts.



Senior High School, Marquette, Mich.
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NOTABLE Schools from every section of the country are being constantly added to the installation records of Williams Reversible Window Equipment . . . indisputably proving that Williams Equipment is truly "ideal, from every consideration, for classroom use". Write for details on **CONTROLLED VENTILATION** and **LOW CLEANING COSTS**.

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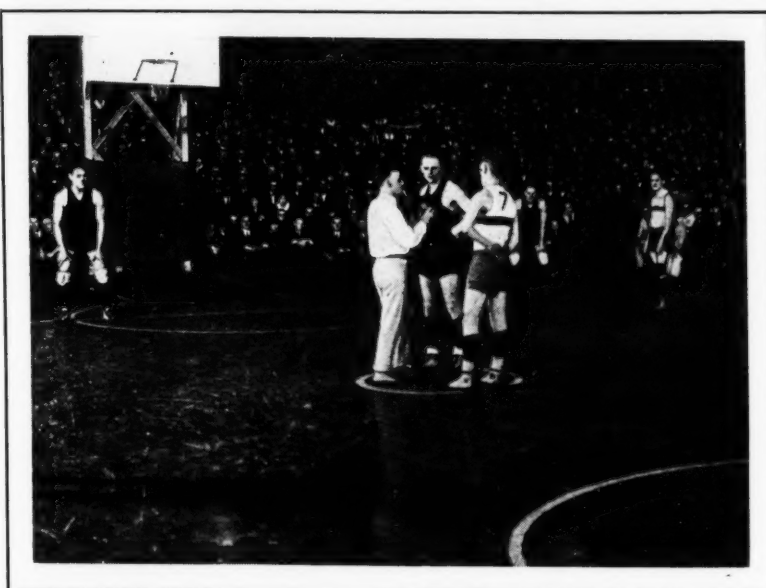
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At little more than the cost of wood Circle A now offers Portable Steel Bleachers—fitting companion to the well known Circle A Wood Bleachers. The new steel seats offer equal handling and erection ease—equal strength of construction—plus longer life and a better effect on the crowd from a psychological standpoint.

Either type can be erected indoors or out. Either type can bring bigger basketball crowds in your "gym" now—and then work outdoors for you next summer and fall. Write today for the data on these year around seats.



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CIRCLE A BLEACHERS **WOOD-PORTABLE STEEL-PORTABLE**

(Concluded from Page 100)

ment for the various rooms. A total of 82 repair projects was carried out under the direction of the various shop instructors.

♦ The school board of St. Joseph, Mich., has been asked to approve a recommendation of Supt. E. P. Clarke, providing for a threefold school-expansion program, at an expenditure of approximately \$380,000. The program calls for the erection of two schools and an addition to the high school.

♦ West Allis, Wis. The school board has asked the city council for \$205,000 to be used for new school additions. The sum of \$160,000 will be devoted to the erection of the new unit of the Washington Junior High School, and \$45,000 for additions to the Wilson and Franklin Schools.

♦ A fire swept the interior of the new \$5,000,000 educational building at Harrisburg, Pa., on October 3, with a loss of between \$300,000 and \$1,000,000. The fire which originated in the scaffolding of the auditorium, gained considerable headway before the firemen arrived, so that smoke filled the entire structure, adding to the damage from fire and water.

♦ Columbus, Ga. The school board has completed two new schools, an addition to another, and repairs to existing buildings, at an expenditure of \$3,901.

♦ Ludington, Mich. The school board has recently completed an extensive program of repairs and improvements, which involved an expenditure of \$3,901.

♦ Chicago, Ill. The school board has approved the 1930 school-building program, providing for the construction of seventeen new school buildings, at an estimated cost of \$18,000,000. In the group are four senior high schools, each to accommodate 1,600 students, on which construction will begin in December. In addition to these, four grammar schools will be erected, at a cost of \$8,500,000. The remainder of the program, with the exception of additions to existing buildings and repairs, will be held over until 1931.

♦ The architect of the Chicago board of education, Mr. Paul Gerhardt, has proposed a program

which calls for the removal of every portable building and provisions for seating every child in the regular classrooms. The plan follows the approval of the school board's new building program, which calls for a total of 44,450 seats during the coming year. With a total of 31 buildings, 5 are replacements, making a net gain of 41,568 seats. All of these will be ready for use in September, 1931.

♦ Cleveland, Ohio. Four school buildings, representing an investment of more than \$4,000,000 will be under construction by the end of the present school year, according to Mr. G. M. Hopkinson, architect of the board of education. Contracts for the first three buildings have been let and the work will start in December. All four buildings will be ready for use by September, 1931.

♦ New York, N. Y. Elimination of part time, now at a new low point, is predicted by the school officials with the completion and occupation of 33 school buildings under course of construction. The statistics of the building bureau shows that 52,507 new sittings will be ready within the school year, the largest number going to Brooklyn, and the second largest to Queens borough. The total of sittings for Manhattan borough is 11,699, of Brooklyn 18,172; of Queens 17,587; and of Richmond 2,392.

♦ Glencoe, Ill. The school board is facing the need of additional school facilities, following an increase in enrollment. Since June, 1928, the enrollment in the schools has increased from 710 to 931, and at the present rate of increase, will be 1,014 by June, 1931.

♦ Springfield, Ohio. Dr. T. C. Holy, director of the bureau of research, of Ohio University, recently submitted a report on a school-construction program for the city schools. The report recommends an expenditure of \$2,353,000, of which \$145,000 is to be devoted to site additions and new sites, and \$2,208,000 for new buildings and additions to buildings.

♦ The Amos Steck School, the newest elementary school in Denver, Colo., was completed and occupied on November 1. The school is located in one of the city's newest residential districts.

Construction work has been started on the Horace Mann Junior High School, the eleventh junior high school to be erected since 1918. The building which is the last word in junior-high-school architecture, will be erected at a cost of \$492,000.

♦ Wethersfield, Conn. An eight-room elementary school was opened for the first time in September. The building was planned and erected under the direction of Mr. W. F. Merchant, architect, of Hartford. A six-room addition to the high school has been occupied. Messrs. Ebbets & Frid, of Hartford, were the architects.

♦ Santa Ana, Calif. Two elementary schools, one a ten-room and kindergarten building, and the other a nine-room and kindergarten, have been recently completed. Construction work has been started on a junior high school of thirty rooms. In addition to these, an eight-room addition is being erected for the other junior high school, and a new cafeteria building to replace the old building.

SCHOOLHOUSE DEDICATIONS

♦ L. J. Smith, superintendent of county schools, delivered the dedicatory address at the opening of the new Richville school, near Canton, Ohio. There were also remarks by Charles J. Marr, the architect, and Clyde Metzger, the president of the board of education.

♦ The new \$300,000 high-school building at North Olmstead, near Cleveland, Ohio, was opened with a program which included E. J. Witthoff, president of the board of education, and L. E. Hayes, superintendent, as speakers.

♦ The new school-administration building of Niles, Ohio, was formally opened with speeches made by Pres. Z. C. Kline, president of the board of education, and Supt. R. J. Kiefer. The building is constructed in bungalow style, and was erected at a cost of \$10,978.

♦ Appropriate dedicatory ceremonies attended the opening of the new \$142,000 high-school building, at Blackfoot, Idaho. The presentation of the building to the community was made by Leon J. Chapman, clerk of the school board. Pres. Nofear Davis presided. Dean John Dyer, of the University of Idaho, was the principal speaker.



No. 1080 Multi-Service Physics and Chemistry Table.
This table is popular in small High Schools where the
Physics and Chemistry Laboratories must be combined.

Why SHELDON'S Thirty Years Experience Is Valuable To You!

Facilities alone do not produce high quality laboratory furniture—trained men are necessary, men who know designing; men who are familiar with the requirements of schools in every state in the country; men who know wood, chemistry, plumbing, metal, and hardware.

SHELDON quality laboratory furniture is produced by men of long experience, men who have grown up with the SHELDON Company.

All this means better workmanship, expert design, and correct installations. Installations which pay larger dividends in satisfaction — installations backed by 30 years of invaluable experience.

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Laboratory Furniture Specialists for Thirty Years



STATUS OF GROUP INSURANCE IN DETROIT

A recent report on group insurance for teachers, issued by the Detroit Teachers' Association, shows that up to August, 1930, a total of \$34,951 has been paid in benefits to teachers under the group sickness and accident-insurance plan. The money was paid to a total of 171 teachers, of whom 64 were in the intermediate division, and 49 in the administrative division of the school system.

The totals show that a large number of teachers have already benefited, and that a large amount of money has been paid in benefits. The smallest payment was \$4.28 and the largest was \$2,480. The average payment for a single case of sickness or accident was \$192. It is interesting to note that ten people have received benefits twice, and one person has received benefits three different times.

The number of Detroit teachers insured under the Detroit Teachers' Insurance policy has grown materially since the inception of the plan. After a period of careful investigation and study of various plans by an insurance committee, the elementary and kindergarten divisions adopted the plan and made it available for members in May, 1930.

At present all divisions of the Detroit teachers offer group insurance to their members. It is significant that, in the two divisions now on the second year of the insurance, there was a material increase in the number taking the policy the second year. A large number of teachers chose to change to a higher class of benefit. In the administrative division there were ten who did not renew, but there were 157 new applications received, and 107 of

those who renewed changed to a higher class of benefit. In the intermediate division there were 51 who did not renew, but there were 120 new applications. There were 6 who decreased their class, but 80 increased it.

Under the regulations, newly appointed teachers who join the teachers' association and their divisions are eligible to take out insurance without medical examination, provided the application is made within ninety days after the effective date of the appointment. Teachers who do not make application within the required period may apply for the insurance at a later date, but they are required to take a physical examination to show evidence of good health.

TEACHERS

♦ Cleveland, Ohio. Teachers in the public schools of the city will be required to serve on juries, despite a protest of Supt. R. G. Jones, under a recent decision of the jury commissioners. The action was taken after the commissioners received a letter from Superintendent Jones, in which he asked that teachers be spared from jury duty. It was pointed out that the law does not exempt teachers from jury service, and that the jury commission could not consistently exempt them from such service.

Superintendent Jones pointed out that he had given the calling of teachers for jury service a year's trial. The teachers had willingly responded for duty, but became discouraged when they found that lawyers did not want them to weigh the merits of a case. He asked that the jury commission recognize the situation and allow the teachers to remain in their classrooms.

♦ Milwaukee, Wis. The single-salary plan for teachers, proposed by President Elizabeth Mehan at a recent meeting of the school board, is not a single-salary plan in fact, according to Miss Ethel Gardner, president of the Milwaukee Teachers' Association in a recent statement.

According to Miss Gardner, differentials between elementary and high-school teachers, both junior and senior high schools, appear in the Mehan plan,

and promotion from one classification to another is provided for by recommendation of the superintendent. These principles, it appears, are not in accord with the salary schedule advocated by the teachers' association. It was asked that final judgment be withheld until the proposal is further clarified.

♦ Rome, N. Y. The salary schedule for elementary-school principals has recently been increased by the school board, without increasing the total to be raised by taxation. The total increase which amounts to \$1,200, will be taken care of in the salary item by transferring the amount from the item for capital outlay.

♦ Rock Island, Ill. The school board recently granted salary increases to seventeen teachers as a reward for professional courses pursued during the vacation period. The total of the increases amounted to \$1,655.

♦ Rockford, Ill. The salaries of fifty teachers were recently increased by \$50 each. The increases were given to teachers who had earned additional teaching credits in summer school.

♦ New Bedford, Mass. The school board failed to carry a proposition, which proposed the giving of half pay to employees of the schools for the first twenty days of absence.

♦ Detroit, Mich. By a unanimous vote, the members of the Detroit teachers' association have urged members of the board of education to grant teachers the regular scheduled salaries this year. In adopting the resolution, the members of the association made it clear that they were not asking for salary increases.

♦ Cleveland, Ohio. The school teachers, victorious in their efforts to block favorable committee action, on a resolution to prevent salary increases for school employees during the school year, are facing a reopening of the entire question in the near future. Mr. Alfred A. Benesch, chairman of the board's finance committee, announced he would take the matter before the whole board, since the committee had voted to delay final action.

Standard Fire Insurance Policy

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NEW YORK

CASH CAPITAL \$24,000,000

Cash Capital \$24,000,000.00


Net Surplus \$ 48,796,473.07
(Accumulated over 77 Years)

Surplus to Policyholders \$ 72,796,473.07

Additional Funds \$ 40,714,883.00
(Pro rata Unearned Premiums)

Reserved for Miscellaneous
Accounts, Taxes, Dividends and
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Assets Cash on hand, funds con-
servatively invested or current
balances payable when due **\$126,750,802.33**



WHAT'S BACK OF A HOME POLICY ?

It is important that the written portions of all policies covering the same property read exactly alike. If they do not they should be made uniform at once.
R. 3613-1-30

TO all outward appearances an insurance policy is merely a contract calling for so much protection paid for at a standardized rate. But thorough investigation discloses the quality of that protection.

To determine "What's back of a policy" it is necessary to get under the surface and dig down to bed rock.

The record of the company issuing the policy, its conduct during times of stress, its assets and surplus held for the protection of its policyholders, the equitable and satisfactory adjustments of its losses are other factors which go to build up the solidity of insurance protection.

In serving your community—make certain that the school property is adequately protected with sound insurance through a stock company.

The Home Insurance Company of New York, a stock company, has never failed to fairly and promptly adjust all losses and provides sound protection through its resources which total nearly \$127,000,000.

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This Two-Student Table Design Will Serve All Science Classes

A very popular Two-Student Combination Chemistry and Physics Table that can be used for other science classes, is 72" long, 24" wide, 34" high, made of selected white oak with birch Ebonacid top, Alberene stone sink, all water, gas and waste pipe to the floor.



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CHICAGO CORRESPONDENCE

On October 8 the board of education awarded contracts for the construction of a new 2,800-pupil-capacity senior high school to be known as the Charles P. Steinmetz school. It is located in the fast-growing northwest side of Chicago, at Barry and Melvina avenues. On recommendation of Supt. William J. Bogan, \$2,750,000 was appropriated from the fund for new buildings to cover the cost of this building. The Steinmetz Senior High School is located in a district now served by Schurz High School. Schurz has an enrollment of 8,700 pupils and since the main building has capacity for only 5,000, there is a tremendous overload taken care of by branches and part-time sessions. In the vicinity of the Steinmetz site there is a Schurz branch consisting of 30 portable buildings. These portables serve 1,600 ninth- and tenth-grade children on half-day sessions. One group attends from 8:00 to 12:30 and another group attends from 12:30 to 5:00. The Steinmetz will do away with this branch, but Schurz has another branch consisting of 16 portables housing 800 children.

These children will not have adequate seats until the new William Howard Taft Senior High School is erected still farther toward the northwest corner of the city. The Steinmetz will be strictly a senior high school housing grades ten, eleven, and twelve. It will be surrounded by junior high schools which will take care of the ninth-grade boys and girls.

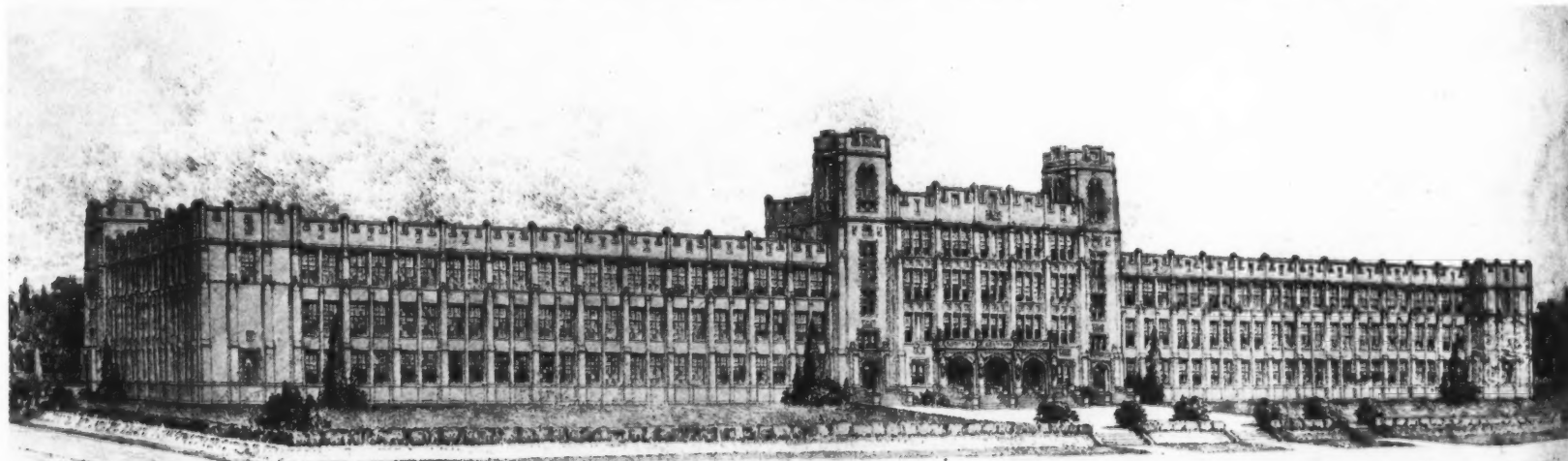
Sixty of the 696 students enrolled in the Spalding School for Crippled Children were discovered to be afflicted with "trench mouth," and 238 others were found with positive symptoms of the disease. Doctors from the city health department discovered this condition, and vigorous steps are being taken by the city health department and the board of education to correct this condition.

Some time ago, the attorney for the board of education instituted mandamus proceedings against the school trustees. There are three statutory officers, coördinate in rank and authority, namely, the superintendent of schools, the business manager, and the attorney. The board of education, against the recommendation of the attorney and in op-

position to him, named two assistant attorneys and directed the line of activity for them to pursue, namely, condemnation cases for one and taxation cases for another. The attorney promptly went to court, citing as precedent the Chadsey case wherein the school board assigned duties to assistant superintendents over the superintendent's objections.

The school-board attorney won in the lower court; he won in the appellate court. The question was then presented to the board of education whether to appeal the decision to the supreme court. In the discussions of the matter, the attorney cited the fact that he is a statutory officer specifically charged with the direction and conduct of the law department. He claimed that the action of the trustees in overriding his recommendations and assigning his assistants over his objections, was emasculating him. The president of the board retorted that if the attorney's position is as stated by him, then the school board is emasculated and has no authority other than to rubber stamp its approval to recommendations by the three depart-

(Concluded on Page 108)



THE STEINMETZ JUNIOR HIGH SCHOOL, CHICAGO, ILLINOIS
Paul Gerhardt, Architect, Chicago, Illinois

J-M TILE FLOORING



In Johns-Manville Tile Flooring there is a wide variety of colors from which to choose. Tiles are oblong or square; in several sizes; in an endless variety of designs. In its attractiveness, this flooring is ideally suited to modern school architecture.



The low first cost and low maintenance cost of J-M Tile Flooring offer the solution to every flooring problem.

No student will be injured by slipping on this floor

No student can injure this floor with inks or acids or scuffling shoes

YOU know a school's floors should be safe, as well as durable and attractive. To combine these three qualities in a floor—at low cost—has remained for Johns-Manville to accomplish—with J-M Tile Flooring.

The safety of students, alone, makes your consideration of J-M Tile Flooring a duty. You need to walk only twenty steps on J-M Tile Flooring to recognize how safe it is for careless, active feet.

In recommending floors you need to be

Johns-Manville
TILE FLOORING—TYPE A



certain of durability. School floors must stand hard traffic and abuse. J-M Tile Flooring was specially built for continued hard service. J-M Tile Flooring has been used on trains, in busy lobbies, in hundreds of places where an ordinary floor would soon perish. Wherever used, J-M Tile Flooring has proved its ability to outlive hard knocks, to look well year after year.

J-M Tile Flooring withstands every abuse encountered in schools. Water and dampness, tracked in on rainy days, have no effect on J-M Tile Flooring; nor have the spilled ink bottle and the dropping of ordinary acids. Ordinary soaps and water will clean J-M Tile Flooring. No special preparations are required.

We will be pleased to supply complete information in concise form on this new, low-cost floor. Furthermore, we will be pleased to offer suggestions for your school floors or make estimates without obligating you or your colleagues in any way.

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New York City or San Francisco or Canada

Please send me a copy of your free book—
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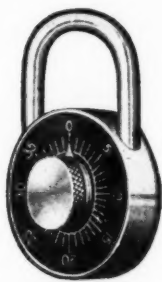
Name.....
Address.....
City..... State.....

ELIMINATE YOUR PASS KEY EVIL

IF YOU ARE STILL USING KEY LOCKS the pass key is a constant menace to the protection of student and school property. When pass keys or duplicate master keys appear in the hands of the unscrupulous, your entire lock equipment immediately becomes worthless

BECAUSE IT DOES NOT PROTECT.

The Dudley Combination Lock eliminates the nuisance and expense of lost and misplaced keys.



B-2-B

And, what is equally important, no pass key or master key can open the Dudley. It is the pick-proof and fool-proof lock that assures positive locker protection. Insist on the genuine Dudley Combination Lock and you permanently solve your locker problem.

Remember, There is a Dudley Lock for every purpose.

Send today for sample lock for free examination

DUDLEY LOCK CORPORATION

26 N. Franklin St.

Dept. A-111

Chicago, Ill.

(Concluded from Page 106)

ment heads. He asserted that he is unwilling to serve as president of a board shorn of power, but that if the supreme court decides that such is the case, he proposes to go to Springfield and try to induce the legislature to change things. The board voted 7 to 1 to carry the case to the supreme court.

For the first time in its history, the Chicago board of education is operating under a legal compulsory budget. Naturally many adjustments and deviations from former informal practices have resulted. For example, teachers had to be assigned to specific schools. It is not always possible to anticipate pupil enrollment exactly. Some schools suddenly lose membership and do not require so many teachers; others unexpectedly make huge enrollment gains and need extra teachers. Under the law the budget could not be altered during the first six months of the year, so it became necessary to resort to the expedient of carrying a teacher on the payroll of one school which had lost membership, although the teacher had actually been transferred and assigned to another school which had experienced an unexpected increase in pupils.

After July 1, certain transfers of moneys from one fund to another were permissible under the law. Thus at the October 7 meeting of the finance committee of the board of education, a recommendation was considered to transfer \$2,500 from the account for sick leave to the account for hauling ashes. James Hemingway, chairman of the finance committee, affected a pessimistic concern about the implications of such a transfer.

Twice a year the Illinois School Masters' Club holds a program, at Peoria in October, at Bloomington in February. Until the past two or three years this club was made up mainly of down-state principals and superintendents. During the past two years, Chicago principals, district superintendents, directors, and assistant superintendents have

attended in growing numbers. At the October 3-4, 1930, meeting, 76 Chicago schoolmen went to Peoria to fraternize with their down-state colleagues. The large Chicago delegation is largely the result of activity by the officers of the George Howland Club, an organization of men principals, particularly during the presidencies of Roland Witcraft, principal of Parker Junior High School, and Marx Holt, principal of Medill Junior High School.

ANTINEPOTISM LAW OF MISSOURI

The question has risen in school circles of Missouri whether the state antinepotism law applies to school officials. The latter have asked the state department of public instruction to construe the constitutional amendment bearing on the subject. The provision of the amendment is as follows:

"Any public officer or employee of this state or of any political subdivision thereof who shall, by virtue of said office or employment, have the right to name or appoint any person to render service to the state or to any political subdivision thereof, and who shall name or appoint to such service any relative within the fourth degree, either by consanguinity or affinity, shall thereby forfeit his or her office or employment."

The department in construing the amendment says: "We believe that the intention of the amendment can best be determined by giving the ordinary meaning to the language used. The clear intention of the amendment is to prohibit any public officer or employee of the state, or of any of its political subdivisions, from naming or appointing to any service for the state, or for any of its political subdivisions, any person related within the fourth degree of consanguinity or affinity to the person making the appointment. We are unable to find any language that will express the meaning of the amendment any more clearly than that used in the amendment itself."

"Consanguinity" imports relationship by blood. "Affinity" imports the connection formed by marriage. The degrees of relationship are computed the same in each instance. The husband stands in the

same degree of nominal propinquity to his wife's relatives as she does, and the wife stands in the same degree of nominal propinquity to her husband's relatives as he does.

"It will be observed that the prohibition is not against the person appointed holding the position, but the amendment provides that the public officer or employee by making such appointment thereby forfeits his or her office or employment. The penalty is fixed and definite, and the only questions to be determined in a proceeding to remove the offender from office or employment would be the fact of the appointment, and the relationship of the appointee to the person making the appointment. The acceptance of public office or employment carries with it the obligation to support the Constitution of the United States and of this state, and to accept the burdens and perform the duties of the office or employment, as well as the right to receive the benefits and emoluments."

SAFETY FOR CHILDREN

♦ The Los Angeles school authorities are urging pupils to observe traffic regulations. The superintendent has issued an announcement which reads that: Principals are requested to keep continuously before the pupils the necessity for the very strict observance of all rules governing traffic on streets and boulevards. Pupils must be required to observe the traffic signals wherever such are installed, to walk in traffic lanes in all instances where such may be painted or indicated on the streets, and also to use tunnels where these conveniences have been constructed for the benefit of pedestrians.

♦ Under the new school code of Mississippi, drivers of all vehicles are prohibited from passing a school truck, while it is taking on or discharging pupils. Provision is made for the immediate identification of the school bus by requiring all such vehicles to carry a large red flag at each corner, the word "school" being written clearly thereon. Violation of this law is punishable by fine or imprisonment, or both.



EVANS "VANISHING DOOR" WARDROBE CLASS A-A, WITHOUT JAMBS OR TRIM

Here is an ideal school classroom wardrobe, low in cost yet meeting every demand of the most exacting. This wardrobe is made for plaster ends, backs and ceilings; no jambs nor trim being required. When so desired blackboards can be furnished for the doors, giving a continuous blackboard surface.

The "Vanishing Door" hinges on which the doors are hung are made with double pivoted arms and swing the doors back into the wardrobe entirely out of the way. There are no noisy tracks nor rollers to stick or bind, nor intricate mechanism to get out of order. These hinges are guaranteed to last as long as the building.

All wardrobes are furnished complete in the knockdown, with all woodwork cut to size, and only need to be nailed in place. The hinges are easier to put on than common butt hinges. The entire cost of installation is small.

Many types of school wardrobes are fully illustrated and described in Catalog "K." A copy can be had for the asking.

W. L. EVANS

WASHINGTON, INDIANA, U. S. A.

VANISHING DOOR WARDROBES

WINDOWS



IN-SWINGING TYPE
SEALAIR WINDOW



VENTILATION

In-swinging Sashes permit controlled ventilation, without unpleasant drafts.



CLEANING

May be washed entirely from the inside.

INSULATION

When closed, insulation between sash and frame protects against weather.

SAFETY

Difficult for anyone to fall or leap out.

NOISELESS

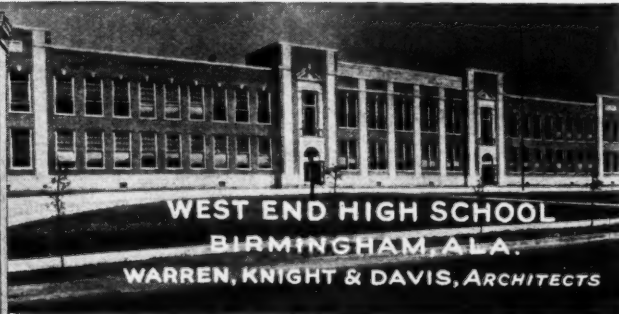
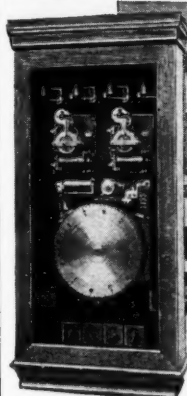
Sealair Windows will not rattle — operate easily, silently and independently.

Furnished in Bronze, Aluminum Alloy or Steel. All joints strongly welded.

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Manufacturers of
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..... with *International Supervised Program Control*

WHEN teachers have to remember "not to forget the period bell", pupils are deprived of time and attention that rightfully belongs to instruction. Manual control of schedules not only wastes a great deal of valuable time, but is unsuited to the requirements of modern school administration.

Hundreds of the country's leading schools have solved their class routine problems once and for all by installing International SUPERVISED Electric Time and Program Equipment.

With this system, bell pushing, clock watching, waste, hurry and confusion are all eliminated. The maintenance of school routine becomes absolutely automatic. . . and thoroughly dependable.

Write for a complete description of this modern means of controlling school time.



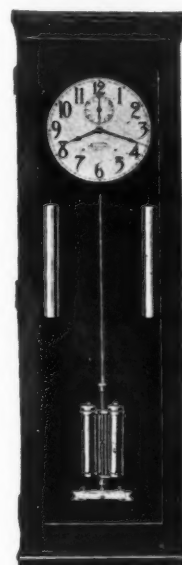
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INTERNATIONAL PROGRAM BELL



INTERNATIONAL OUTSIDE GONG



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Offices and Service Stations in all Principal Cities of the World

A Suggested Code for Schoolroom Ventilation

(Continued from Page 61)

have been approved in writing by the said authorized person or persons, and the written approval publicly announced at least thirty days prior to the filing of any bid in which the said substitutes are offered.

Article II

1. In the construction of all rooms which require mechanical ventilation under this act, precaution shall be taken against excessive heat transfer as follows:

a) Crevices around all outside window and door-frames shall be caulked or otherwise protected in an approved manner against air leakage.

b) All fixed sash shall be tightly fitted against infiltration.

c) All wooden doors, double-hung sash, casements, and movable transoms shall be equipped with non-corrosive metal weather strips.

d) All movable steel sash shall be weatherproofed in a manner approved by the department of . . .

e) All glazing shall be back puttied.

f) All outside masonry walls shall be furred using a board form of fiber insulation and all outside frame walls shall have board-form insulation base.

NOTE: It is the purpose of this clause to provide against excessive absorption of radiant heat by cold walls from occupants near by, as well as to reduce heat losses by conduction. Therefore, the inner surfaces of all outside walls shall be protected regardless of their construction.

g) All ceilings under nonheated surfaces shall be so constructed and insulated that the rate of heat transfer shall not exceed 0.12 B.t.u. per square foot per hour per degree difference between the temperature of the

room and that out of doors as calculated by the rules of the American Society of Heating and Ventilating Engineers.

h) No room of this character shall be provided with a floor laid directly on the ground, and floors laid directly over the ground shall be insulated in an approved manner.

2. Rooms need not be provided with vent outlets, unless they are deemed necessary to secure proper circulation. In the latter case, rooms may be vented through vertical flues extending out of doors or through openings into the corridors and thence through flues or roof ventilators. Where vents are provided in rooms, in which it is desired at times to recirculate the air, they shall be equipped with tight-closing louver dampers which may be closed at times when air is recirculated. Regular vent openings shall be located at the floor line.

Article III

1. Plans shall provide adequate means for maintaining the following room temperatures at a designated minimum out-of-door temperature:

Class and recitation rooms	} 70 deg. F.
Vocational rooms	
Laboratories	
Assembly rooms	
Study rooms	
Lecture rooms	
Offices	
Libraries	
Clinics	
Restrooms	

Toilets, lockers, and corridors 65 deg. F.
Gymnasiums and playrooms 60 deg. F.
Other spaces as designated by the department of . . .

2. The designated minimum out-of-door temperature shall be determined by the zone in which the building is located. For this purpose, the state shall be subdivided into climatic zones having isothermal boundary lines 10 deg. apart, and providing zones of +10 deg., zero, -10 deg. and -20 deg. F., etc., depending upon the temperatures in the particular state involved.

3. These isothermal boundaries shall be determined by the department of . . . by taking the average of the lowest temperature ever reported and the mean minimum temperature for the coldest month in the year at various points from available weather statistics. For example, if in a given community the lowest recorded temperature is -30 deg., and the mean minimum temperature for the coldest month in the year is +10 deg., this community would lie in a zone of $-30 + 10 \div 2 = -10$ deg.

4. Heat losses shall be calculated in accordance with current published rules and data of the American Society of Heating and Ventilating Engineers.

5. Capacities of all heating and ventilating equipment shall be based upon ratings approved by the department of . . . who are given the right under this act to formulate and dispense such rules and information as will encourage uniform, economical, and safe practice.

6. Insofar as practicable, the department of education will accept ratings by reputable national societies, but they are not bound to accept individual manufacturer's ratings or guarantees without satisfactory proof of certification.

Article IV

1. All spaces in which the composite pupil under the regular school curriculum may spend the major portion of the school day in sedentary occupation shall provide at least 200 cu. ft. of space per pupil, and shall be equipped with positive controllable mechanical means for uniformly and continuously circulating the air in the same at the rate of at least five volumes per hour and not less than $17\frac{1}{2}$ cu. ft. per occupant per minute during school sessions without uncomfortable drafts. This will include all class and recitation rooms.

2. The entire volume of air handled by the equipment may be recirculated within the individual rooms in cold weather, provided the equipment is so constructed that it will automatically substitute out-of-door air in varying quantities up to the full amount, as the weather moderates or the room overheats.

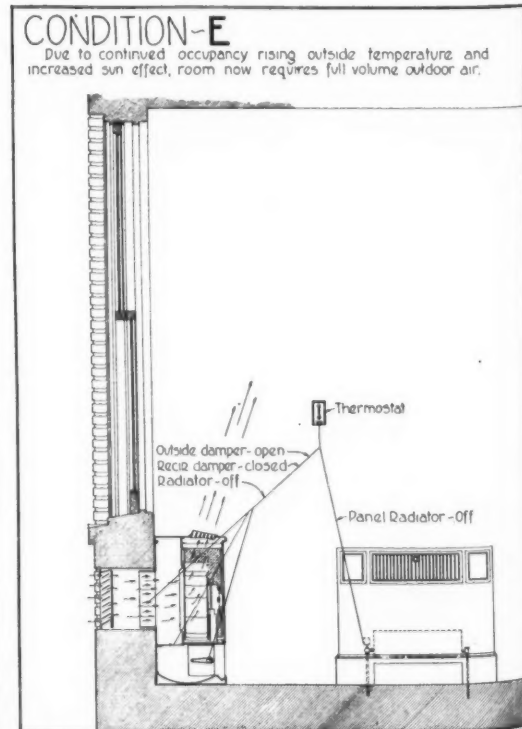
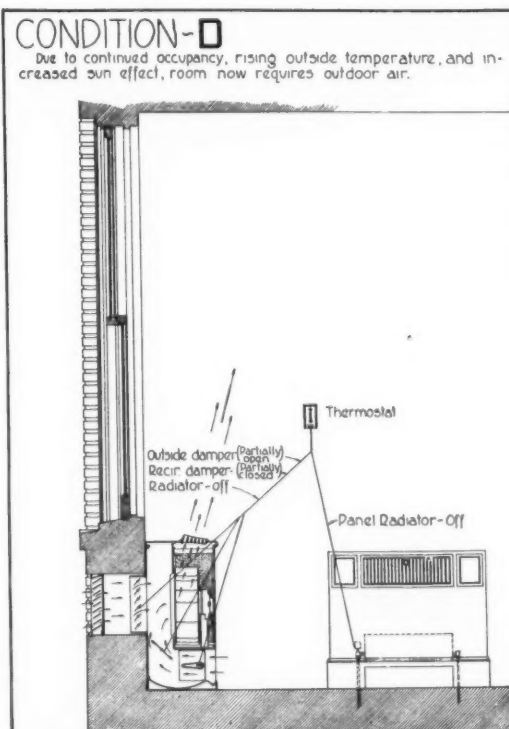
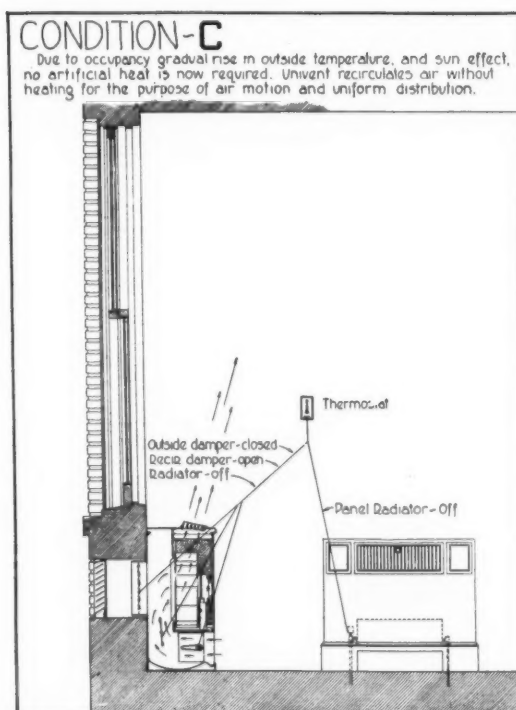
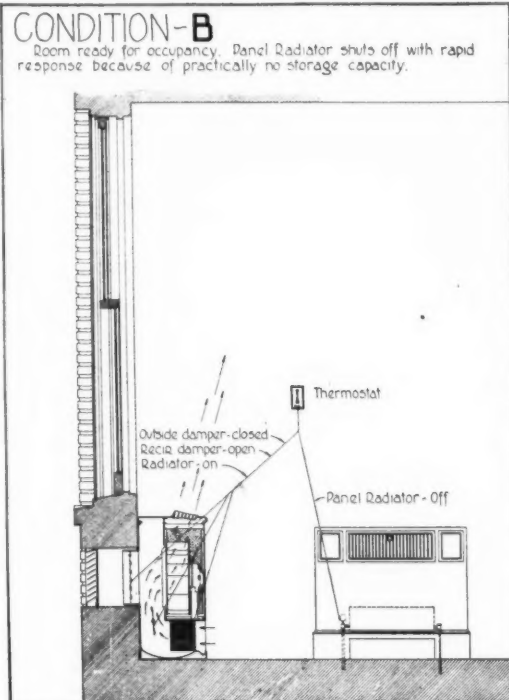
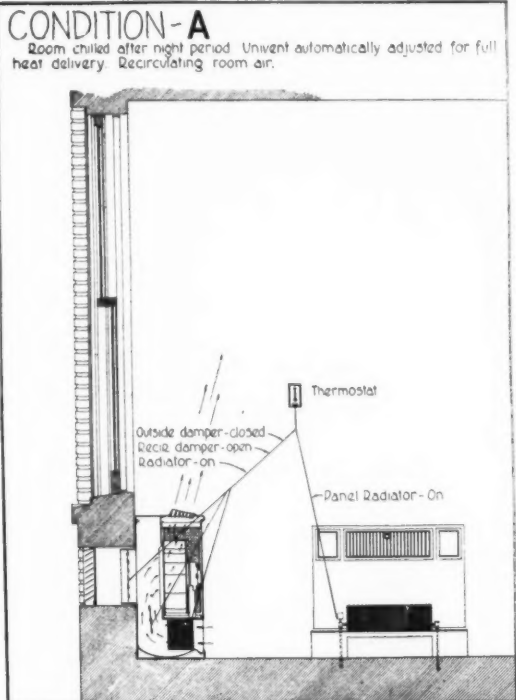
3. Means, approved by the department of . . . shall be provided in all such rooms for maintaining a uniform temperature under varying weather conditions.

4. Where automatic temperature regulation is provided (except where humidistats, or equivalent means, are employed for maintaining constant humidity conditions), thermostats shall be arranged so that they can be adjusted over a range of 5 deg. to compensate for varying conditions of humidity.

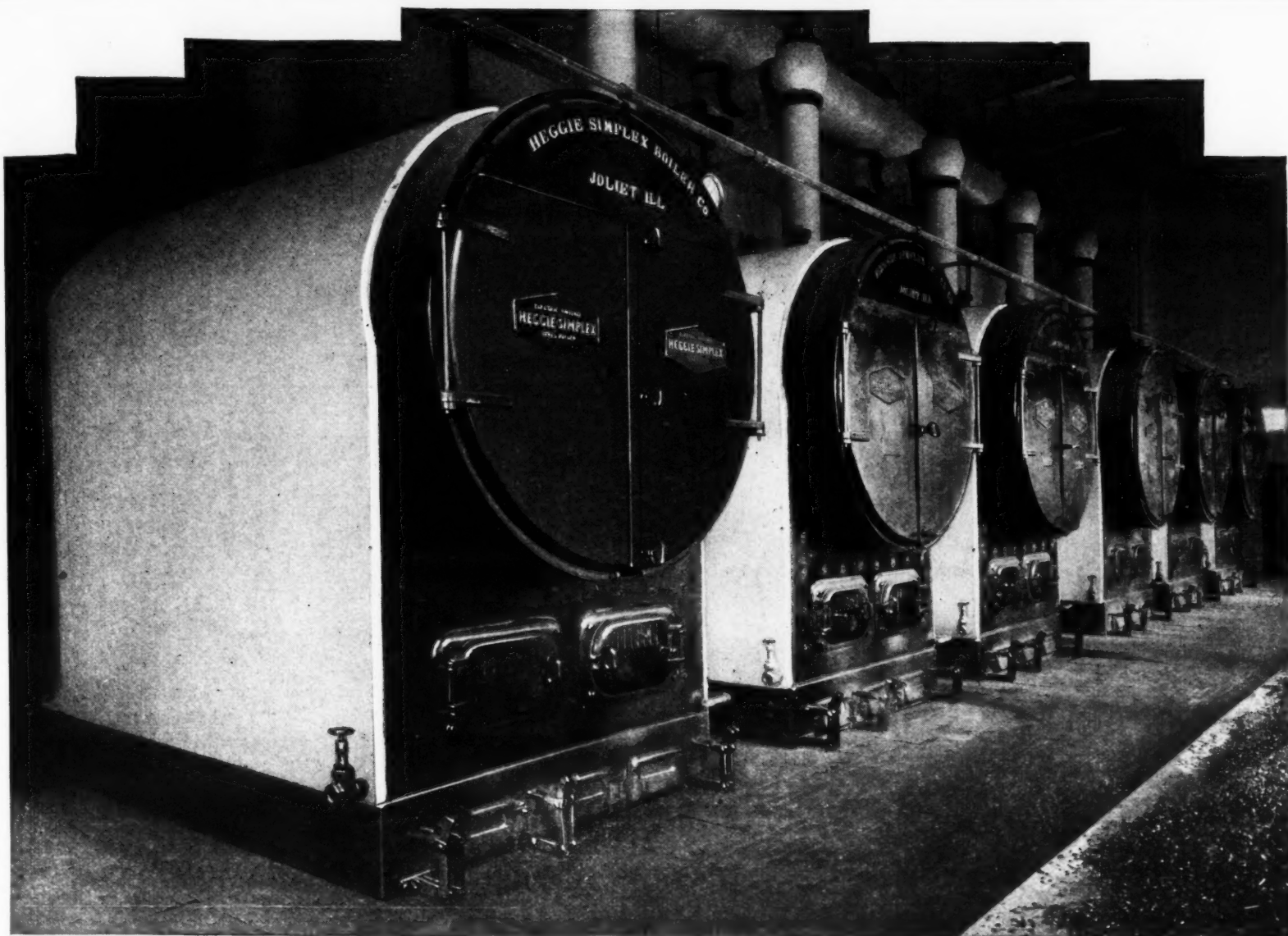
5. Where manual operation is employed for control, full and clear instructions shall be posted in each room.

6. Nothing in this act shall be construed as opposing the thorough ventilation of rooms other than those specifically provided for in paragraph 1. The controlled circulation of air and the addition of outside air as

(Concluded on Page 113)



FIVE TYPICAL CLASSROOM CONDITIONS WHICH A HEATING AND VENTILATING SYSTEM MUST MEET
The five diagrams above illustrate the typical situations which must be met in classrooms. The Code suggested by Mr. Nelson covers them and the arrangement of radiators and unit ventilator will meet them.



Staunch Guardians of Health

and maintenance funds

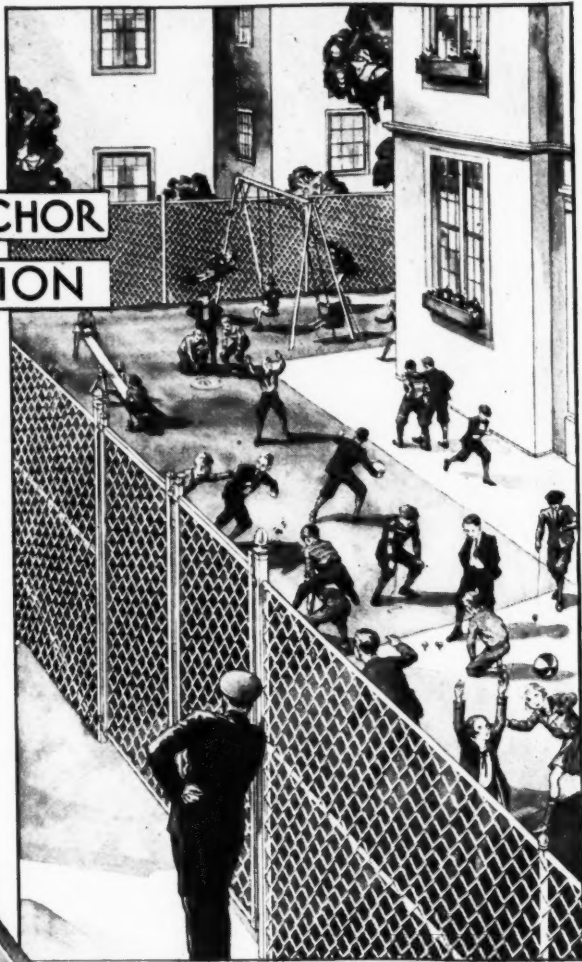
●
Six 22,000 sq. ft. Heggie-Simplex Boilers in the Elmer Meyers High School, Wilkes-Barre, Pa. Architect and Engineer: Robert Ireland, Wilkes-Barre, Pa.

The selection of Heggie-Simplex Steel Heating Boilers for another of the country's largest school installations—the Elmer Meyers High School, Wilkes-Barre, Pa., is but further proof of the outstanding dependability and economy that are built into these modern heating units. In scores of leading schools, their advanced design assures an unfailing and abundant supply of healthful heat at costs which represent substantial savings in operating and up-keep expense.

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The extra large fire-box gives fuel more room to burn. More of the heating surface is in direct contact with the fire and absorbs the heat faster. Unrestricted water circulation carries the heat quickly to the outlet without waste; while rear-front-rear flues strip burned gases of all usable heat units before they reach the chimney. Electric-welded steel construction assures complete freedom from cracks and costly breakdowns, and minimizes insurance premiums. For details, address *Heggie-Simplex Boiler Co., Joliet, Ill. Representatives in principal cities.*

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PROTECTION**



RESPONSIBILITY RELIEVED

Recess period! Play-minded youngsters rush to the playground to give vent to their pent-up excess energies. Caution is abandoned. Discipline is inadequate, to stop their racing feet from running into dangerous traffic lanes. Safety must be enforced.

With Anchor Protection children play in safety. Your responsibility is relieved. An Anchor Fence provides positive protection at the boundaries of your playground.

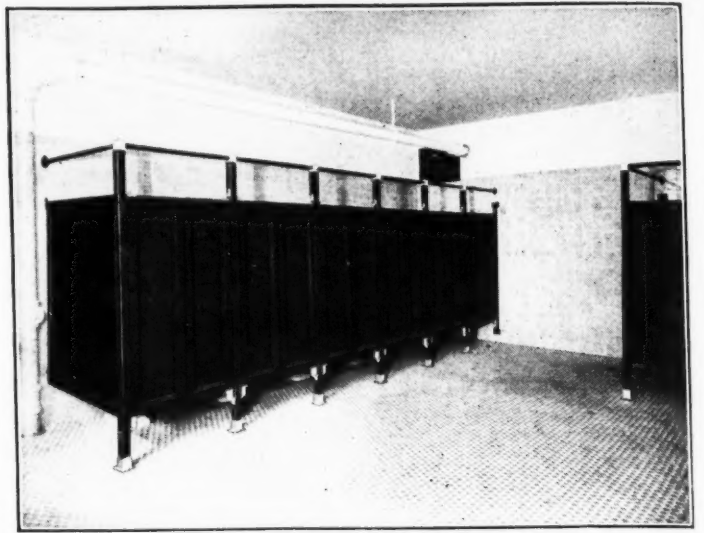
An Anchor Fencing Specialist is located near you. Just phone or write, and his services will be placed at your disposal. Or, ask for complete catalog of Anchor School Fences.

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MADE BY THE MAKERS OF AMERICA'S
FIRST CHAIN LINK FENCE



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A B C's of Health

SANITARY toilet rooms — those in which you find Sanymetal Steel Toilet Partitions—are healthy toilet rooms. They encourage healthy minds as well as healthy bodies in the youngsters who use them.

Back in the days when you and I were learning our ABC's, toilets were something you just didn't talk about. You remember them — unsanitary and ugly, the walls profusely and suggestively decorated by pen knives and crayons — a positive menace to health and morals. Today that sort of thing is unthinkable. Modern schools demand the best in sanitation and comfort.

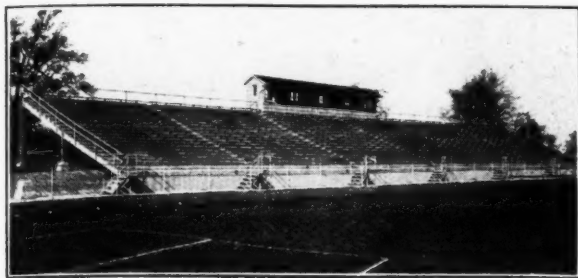
Sanymetal Steel Partitions are helping to teach the ABC's of health in schools all over the country. They will do it in your school, too.

Sanymetal Products for Schools are: Toilet, shower, dressing and urinal compartments. Corridor and smoke screens. Metal doors and wainscot. Sanymetal Gravity Hinges. Write for New Catalog No. 30.

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PARTITIONS

PITTSBURGH DES MOINES



This modern steel PDM Grandstand holds 2880 spectators—comfortably and profitably. It is the second PDM all-steel unit installed for Miami University, Oxford, Ohio.

King Football Is Here!

Football pays the way for the entire year's athletic activities in most schools and universities. Is it paying the way for *YOUR* school? Do you have adequate seating facilities on your field to reap this financial reward—and enjoy a record season financially?

The Pittsburgh-Des Moines Steel Grandstand offers

maximum seating capacity at minimum cost. Its upkeep is low—an occasional painting; its investment value is high. Our special deferred payment plan allows PDM Grandstands to literally earn their own cost from the increased receipts which they produce.

PDM Grandstands are built in standard sections, which can be added to or double decked as required. The clear space beneath the stand may serve as offices or storage and dressing rooms. Comfortable wooden seats raised on steel supports give ample leg and foot room.

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Pittsburgh-Des Moines Steel Company

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991 Tuttle St., Des Moines, Ia.

693 Hudson Terminal Bldg., New York, N. Y.

(Concluded from Page 110)

required for cooling in assembly rooms and other spaces is urged but not demanded by the law.

Article V

1. The ventilating equipment shall be arranged and designed to circulate the air within the rooms without perceptible drafts and in such a manner that the variations in temperature in any horizontal or vertical plane shall not exceed 5 deg. at any time.

2. Any and all exposed pipes, within the rooms to be ventilated, which produce heat shall be covered with an effective insulating material.

3. The heating and ventilating plant shall be so designed and installed that all radiators and other heating elements in the rooms to be ventilated may be easily and conveniently closed, either by manual or pneumatic means to immediately stop the production of heat in the room.

4. Heating and ventilating equipment shall be equipped with efficient air filters in such a manner that all the air passing through the same, whether from out of doors or within the room, shall be filtered to remove dust or dirt particles.

5. Artificial means shall be provided for adding moisture to the air when necessary so that the minimum relative humidity shall never be less than 30 per cent.

Article VI

1. Approved mechanical means for exhausting at least six volumes of air per hour shall be provided in toilets, lockers, and domestic-science rooms and the heating equipment in such rooms shall be increased sufficiently to compensate for the increased load occasioned by the exhaust system. Experimental hoods in laboratories shall be provided with exhaust ventilation.

2. All spaces in which the composite pupil under the regular school curriculum may spend the major portion of the school day in sedentary occupation shall provide at least 200 cu. ft. of space per pupil and shall be equipped with positive controllable mechanical means for uniformly and continuously circulating the air in the same at the rate of at least 5 volumes per hour and not less than 17½ cu. ft. per occupant per minute during school sessions without uncomfortable drafts. This will include all class and recitation rooms.

3. The entire volume of air handled by the equipment may be recirculated within the individual rooms in cold weather, provided the equipment is so constructed that it will automatically substitute out-of-door air in varying quantities up to the full amount, as the weather moderates or the room overheats.

4. Means, approved by the department of . . . shall be provided in all such rooms for maintaining a uniform temperature under varying weather conditions.

5. Where automatic temperature regulation is provided (except where humidistats, or equivalent means, are employed for maintaining constant humidity conditions), thermostats shall be arranged so that they can be adjusted over a range of 5 deg. to compensate for varying conditions of humidity.

6. Where manual operation is employed for control, full and clear instructions shall be posted in each room.

7. Nothing in this act shall be construed as opposing the thorough ventilation of rooms other than those specifically provided for in paragraph 1. The controlled circulation of air and addition of outside air as required for cooling in assembly rooms and other spaces is urged, but not demanded by the law.

WASHINGTON CORRESPONDENCE

A. C. Monahan, formerly U. S. Bureau of Education
Educational Exhibits at the Department of
Superintendence Meeting

Booths for the exhibits at the Department of Superintendence meeting, to be held in Detroit, February 21 to 26, 1931, will be on sale November 17. This date may be changed by the officers of the National Education Association if found necessary later. However, official notice will be sent to all the regular exhibitors at least ten days prior to the sale. The same plan of allotting booths will be followed as in the past few years. Floor plans with booth locations, dimensions, and prices, will be sent to the exhibitors, to reach them on the morning of the day of the sale. Booths will be allotted in the order of the receipt of application.

The exhibits will be located in at least four different rooms at this meeting, which is a departure from the past few years when a single exhibit hall has been available for all exhibits. The meetings will be held in the Masonic Temple, with the exhibits in the same building. Four large rooms to

be used will include the recreation, crystal ballroom, fountain ballroom and the drill hall. The drill hall has 17,500 square feet of open floor space.

The main auditorium, where the large meeting will be held, has a seating capacity of 5,000. There are 12 other meeting places in the building where sectional meetings may be held at the same time. The building is equipped with a dining room and cafeteria which, together, can feed 5,000 persons at a time. It is located within easy walking distance from the central hotels and restaurants of the city.

Objection to Proposals of the National Advisory Committee on Education

Objections to certain proposals of the National Advisory Committee on Education relative to federal funds to aid the states in education, have been filed with the National Committee by the executive committee of the Association of Land-Grant Colleges and Universities.

It will be remembered that the national committee, in a "Memorandum of Progress" printed and distributed recently, included a proposal that all federal laws be repealed, which give to the states financial aid for special types of educational and research work. In place of such aid, it proposes to give to each state an annual sum of money equal to \$2.50 for each child in the state under 21 years of age. Each state would budget this money among the educational activities of the state as it saw fit. For five years it would be required not to decrease the amount now received from federal funds by institutions for special work.

The proposal if enacted into law, would abolish particularly, appropriations to the state colleges of agriculture and mechanic arts, the state agricultural experiment stations, the Smith-Hughes vocational schools, and the Smith-Bankhead schools for the rehabilitation and reeducation of persons injured in industries. The amount of federal money paid each year for these purposes is approximately as follows:

*See SCHOOL BOARD JOURNAL, August, 1930, p. 109.



Student's Chemistry Desk No. 550

**KIMBALL
CHICAGO**



Instructor's Desk No. 660

W.W. KIMBALL COMPANY

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Student's Biology Table No. 870

Morrill and Nelson Acts for state colleges of agriculture and mechanic arts.....\$3,000,000
Hatch, Adams and Purnell Acts for state agricultural experiment stations..... 4,500,000
Smith-Lever and other funds for cooperative agricultural extension work..... 9,700,000
Smith-Hughes fund for vocational education 7,000,000
Smith-Bankhead fund for rehabilitation.... 1,000,000

The totals already paid to the state under these various acts is given in the October number of this JOURNAL (see p. 66). They approximate \$200,000,000 for the land-grant colleges and for the state experiment stations. This seems like a large amount, but it must be remembered that it includes appropriations extending over a period of nearly 45 years. They approximate \$68,000,000 to the states for vocational education in a period of 13 years, and \$10,500,000 for rehabilitation in a period of ten years.

The statement of the executive committee of the Land-Grant College Association entitled "Preliminary Comments on the Memorandum of Progress of the National Advisory Committee on Education," has been printed by the National Committee and is available for those interested. The title indicates the nature of the statement of objections. It concerns itself largely with questions relative to whether or not the National Advisory Committee, in its proposal to repeal these appropriations and substitute another which might or might not give equal amounts to the colleges and schools affected, has given enough study to the matter to warrant printing the suggestion. It asks for time for the Association of Land-Grant Colleges to give the matter consideration at its next annual meeting in November, and it asks that the forthcoming report of the survey of the land-grant colleges be fully considered. This report is now nearing completion. The survey was made by the U. S. Office of Education, and the actual work was made by a committee of persons from various colleges and universities and members of the bureau staff.

The complaint of the executive committee is summarized, perhaps, by the following words quoted from its statement; referring, of course, to the "Memorandum of Progress."

"It is noted further that the report is a serious effort to place the discussion and recommendations upon a philosophical basis, and that the discussion of principles and policies proceeds upon broad pronouncements of theory which are in large part debatable and any complete answer to which, therefore, will involve considerable time for study and expression."

New Editor for the U. S. Office of Education

The vacancy in the position of chief of the editorial division of the U. S. Office of Education, occurring since the death of Mr. James Boykin in July, 1929, has been filled by the appointment of William Dow Boutwell, who was for the past six years on the staff of the National Geographic Society. Mr. Boutwell is a native of Illinois, and a graduate of the University of Illinois. He was two years in newspaper work and in the information service of the U. S. Post Office Department. In the Geographic Society service he has been assistant to the director of the school service division, and as such has been editor of the *Geographic News Bulletins*. He is the author of numerous articles in the *Geographic Magazine* during the past five years.

During the interval since the death of Mr. Boykin, Dr. Henry Evans has served as the acting chief. He has been a member of the editorial division for many years and is well qualified for the work of the past year.

Textbook Selections for the District of Columbia Schools

Four separate textbook committees, each composed of teachers, principals, and supervisors, have been appointed by Dr. F. W. Ballou, superintendent of schools, to report with recommendations by December 15, on changes suggested for the following year. Similar committees are appointed each year. They report on the books in use and suggest changes where such changes should be made. It is the understanding that no changes will be made until books adopted have been in use for three years, unless there is an unusual reason.

These reports, with the recommendations of the superintendent, go to the school board for action.

Stronger Frame Walls for School Buildings

The United States Forest Products Laboratory, at Madison, Wis., has just completed a study of side walls for buildings and their strength. Sections of walls built up as in actual construction in frame buildings, or in buildings framed under a veneer of brick, stone, or stucco, were tested by means of a device made for that purpose, capable of yielding a million pounds of pressure.

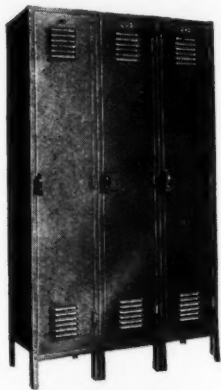
Some of the high lights in the test included the first scientific demonstration of the advantage in strength and rigidity in putting sheathing diagonally instead of horizontally; that plaster on wood lath keys in such a way as to make a panel more than four times as strong and seven times as rigid as unbraced horizontally sheathed panel; that you can use the wrong size nails and waste nails by using them where their effect is insignificant; and that braces of lumber 1 in. thick by 4 in. wide, in the face of the studs diagonally under the sheathing, constitute one of the best methods of bracing.

"Stronger Frame Walls" is the title of an abstract of the technical report of the Laboratory, which is graphically illustrated to make the facts in the text clearly understood in their application. The report which is available to school authorities, architects, builders, and building engineers, can be obtained from the headquarters of the National Lumber Manufacturers' Association, at Washington, D. C.

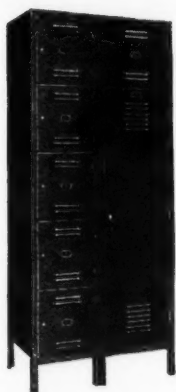
Department of Superintendence Radio Program

United States Commissioner of Education, Dr. William J. Cooper, and Supt. Frank W. Ballou, of Washington, were the speakers in a recent radio program, under the auspices of the Department of Superintendence, National Education Association.

Dr. Cooper's talk dealt with the maintenance of educational activities as a gigantic business enterprise costing over \$2,500,000,000 a year. He urged inquiry as to whether or not the expenditure of this large sum is being done as expertly and efficiently as it might, and suggested the need of "taking account of stock."



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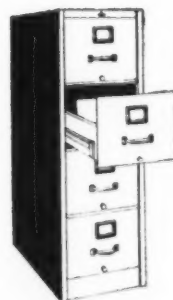
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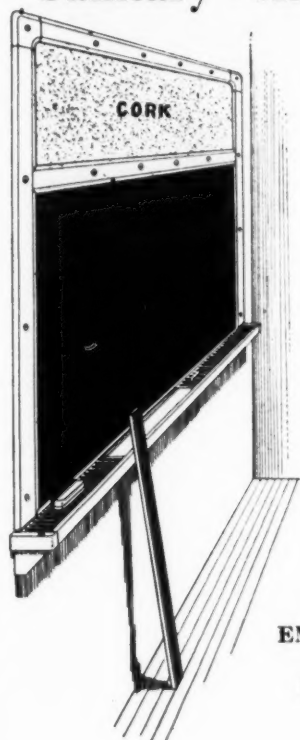
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Dudfield's Dustless Crayon Trough has been specified and installed in schools in nearly every state in the Union. Protected by U. S. Patents.

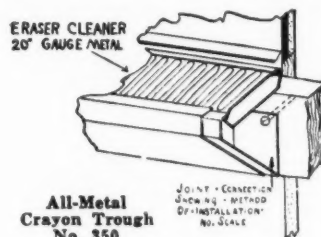
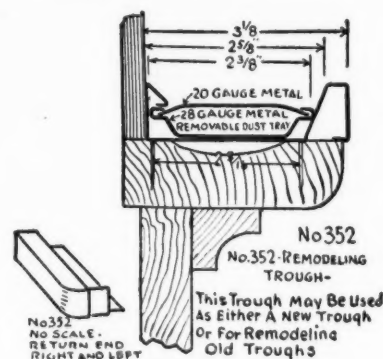
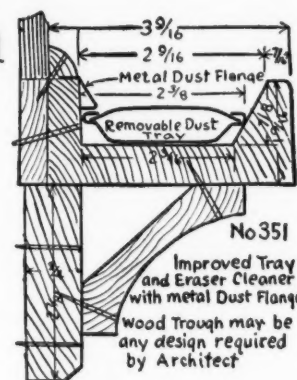
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TEACHERS' SALARIES

ELMHURST REVISES ITS SALARY SCHEDULE

A revised salary schedule, the result of the co-operative efforts of the superintendent, Mr. V. L. Beggs, the members of the teaching staff, and the executive committee of the teachers' council, was recently adopted by the school board of Elmhurst, Illinois.

The actual preparation of the salary schedule was preceded by a careful study of schedules in a large number of cities by the members of the committee. As a result of the study, the committee prepared a statement of aims and principles which was submitted to the board of education as a preliminary report.

In revising the salary schedule, an attempt was made to accomplish certain definite aims, namely: To establish a minimum salary, representing at least a sustenance wage; to establish a maximum which, combined with a retirement income, would be sufficiently high to reward the earlier years of experience with proportionately larger increases due to greater professional growth and increase of value during the years; and finally, to provide definite increases for experience during fifteen years of tenure. Since the budget was such that it would not permit a larger initial increase, and the increments were too rapid in reaching the vanishing point to adequately reward growth in service, it was thought best to reward the teacher for adequate training beyond the minimum requirements at a rate proportionate to the expense of an education. While the basic figure of \$1,500 per year may be too low for additional training, it will at least pay for a substantial part of such education and will be adequate to cover all expense.

The compensation for this expenditure was set at 8 per cent, which may be interpreted as permitting 5 per cent and an additional 3 per cent, which, compounded annually, would retire the investment in

twenty years, with the increments to be paid on the basis of units of college or university work when completed. The increase is figured at the rate of \$13 per university major or its equivalent.

Under the plan, experience gained outside of Elmhurst is rated as equivalent to Elmhurst experience, with the restriction that no teacher may be accorded a place in the salary schedule beyond the sixth

SALARY SCHEDULE

Years Experience	2 Years Normal Training	3 Years Professional Training	Degrees
0	\$ 1200	\$ 1250	\$ 1320
1	1320	1410	1500
2	1416	1556	1656
3	1488	1608	1728
4	1548	1668	1768
5	1608	1728	1848
6	1668	1788	1908
7	1728	1848	1968
8	1788	1908	2028
9	1848	1968	2088
10	1908	2028	2148
11	1968	2088	2208
12	2028	2148	2268
13	2076	2196	2316
14	2124	2244	2364
15	2160	2280	2400

SPECIAL TEACHERS

Years Experience	2 Years Normal Training	3 Years Professional Training	Degrees
0	\$ 1500	\$ 1560	\$ 1620
1	1620	1710	1800
2	1716	1836	1956
3	1768	1908	2028
4	1848	1968	2088
5	1908	2028	2148
6	1968	2088	2208
7	2028	2148	2268
8	2088	2208	2328
9	2148	2268	2388
10	2208	2328	2448

SUPERVISORY SCHEDULE

Years Experience	Supervisors	Supervising Less Than 16 Rooms	Principals 16 Rooms or More
0	\$ 2040	\$ 2040	\$ 2400
1	2160	2160	2520
2	2280	2280	2640
3	2400	2400	2760
4	2520	2520	2880
5	2640	2640	3000
6	2760	2760	3120
7	2880	2880	3240
8	3000	3000	3360
9	3120	3120	3480

THE NEW ELMHURST SCHEDULE

year. Since there are no available data as to the increased worth of supervisory or administrative duties compared with classroom duties, it was believed desirable to adopt arbitrarily the schedule for supervisory and administrative offices which, following the current practice, is double the scale provided for line teachers.

Objective evidence was used whenever available. In its absence some decision had to be made arbitrarily and in accordance with recognized authority and practice. One of the most difficult was the adjustment of present employees to the proposed schedule. A suggestion contained in Lewis's "Personal Problems of the Teaching Staff" was finally adopted with some slight modification.

The salary increments which are based upon teaching experience, are continuous for a period of fifteen years, but will be proportionately higher during the first three years of service. Following this period, the annual increase will continue at a flat rate of \$60 to the thirteenth year. Increases for the thirteenth, fourteenth, and fifteenth years will be respectively \$48, \$48, and \$36. All increments are based upon the teaching experience of the individuals, irrespective of where it was acquired. No teacher will be eligible to appointment on the staff whose training is not at least equivalent to that required for a diploma from a two-year course in a standard teachers' college.

Increases in salary will be given for further professional or academic training approved by the superintendent of schools. These increments which are added to the basic salary, will be computed at the rate of \$13.33 per Chicago University major and will be granted as earned, without any requirement as to amount of credit to be earned. Thus, the increment for the equivalent of three years of college or university training is \$120, and for four years' training for the bachelor's degree \$240. Recognizing that a certain amount of teaching experience is prerequisite to the maximum contribution to be made by advanced training, the board has not allowed for immediate credit for such training, but has distributed the earned increment over a period of three years, as indicated in the accompanying schedule.

Wilson

SECTIONFOLD

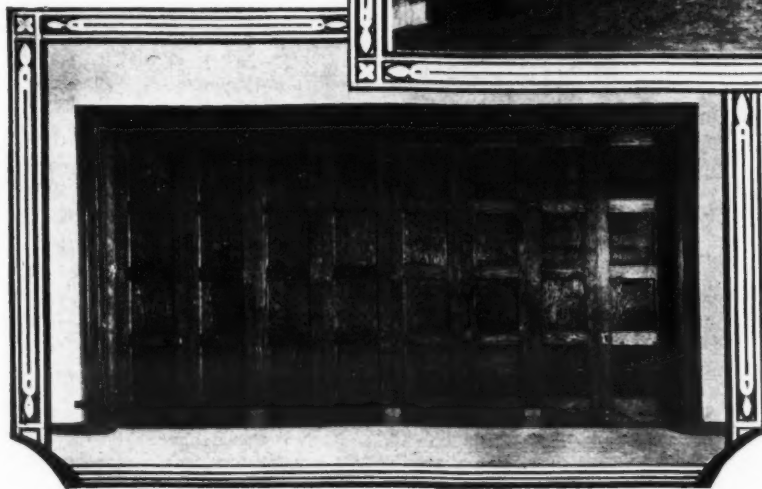
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PARTITIONS

Folded back in its snug recess, this unostentatious partition reveals the back stage of the Providence High School, (Chicago), main auditorium.



NOTE the beautiful partition in the background, in extended position and, at the sides, the neat decorative pocketing of the partition in the foreground.



PANELLED BEAUTY IN FOLDING PARTITIONS

WHEN owners and builders wanted conformity of beauty in the folding partitions that were to divide this beautiful interior into smaller units—they naturally and logically turned to Wilson Sectionfolds.

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Whether in ornate Gothic, as pictured, for chapel or music room interior, or for the plainer needs of auditorium or school gymnasium, Wilson Sectionfold Partitions qualify in every particular.

One large room for mass assemblage instantly becomes two, three, four or more rooms for diversified purposes or to segregate interests that would otherwise conflict. They help broaden scope of activities, facilitate individual purposes and otherwise increase floor space value and utility.

In new buildings wall recesses pocket the sections as they are folded back snugly, easily and quickly. Effective, space-conserving types are made for adaption to old buildings.

Besides these basic Wilson advantages, are the following:

Communicating shuttle doors.

Adaptability to different finishes on both sides, to harmonize with surroundings.

Woodwork and hardware, all products of the Wilson factory.

Five year guarantee with each installation.

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WILSON SECTIONFOLD PARTITIONS are past the experimental stage. Architects and School Boards throughout the country are selecting them for such varied school purposes as:

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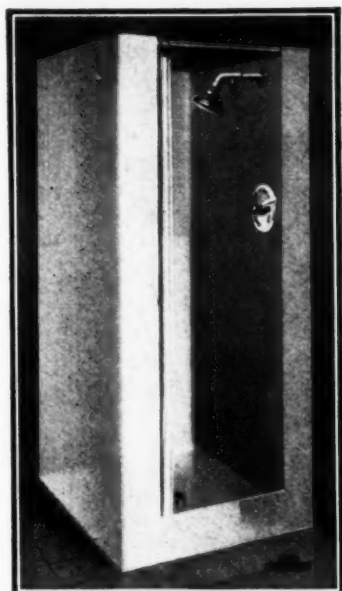
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The easy-clean shower head, described and pictured here, is exclusively in the Niedecken. The radially drilled shower face, another exclusive feature, gives the usual generous shower spray with the use of less water—a valuable economy. The one lever, temperature controlled Niedecken shower mixer is another advantage and desirable convenience. The specially designed shower stall and base, positively leak-proof for all time, is an unequaled advantage. That is why Niedecken Showers are so universally installed, and why you, too, should install Niedecken Showers.

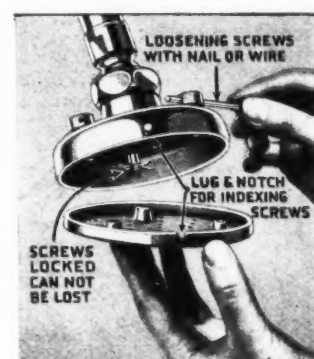
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NIEDECKEN EASY-CLEAN SHOWER HEAD

Face of shower head completely removed by simply loosening 3 screws. After cleaning, face is replaced—a set of notches guiding for correct placement and alignment as when originally assembled.



THE CONDUCT OF FIRE DRILLS IN SIOUX CITY, IOWA

Supt. M. G. Clark, of Sioux City, Iowa, in a recent circular to principals, called particular attention to the importance of regular fire drills and to maintaining everything in the schools in such condition that a fire drill may be called at any time by a fire marshal, a city fire chief, a principal, a janitor, a superintendent, or a member of the board of education. In each case, the principal is to be held responsible for the organization of these drills. The fire drill should be organized in such a way that children march at least one block away from the building, in order that school entrances and fire plugs may be left free for the use of firemen, and that there may be no danger to children by the approach of fire apparatus or interruption in their rapid work. No school may be given credit for a fire drill unless this phase of the drill is observed.

Principals were asked to check the following:

1. Are your fire gongs in good condition for service? Are any ropes, wires, or connections in need of repair? If anything is needed in this line, it should be given first consideration and an immediate report should be made to the proper official.
2. Are all fire extinguishers in good condition for use? The date of refilling and last inspection should be noted. If any of these are in need of attention, a report should be made.
3. Are all doors in good working order so that in case of a fire or fire drill there will be no obstruction from the standpoint of locked doors, or doors that do not open easily?
4. Are all stairs and halls clear of obstructions?
5. Is there any material in hallways, under stairs, or other places, which is inflammable and a fire menace? The manner of storing dustcloths, mops, and cleaning material should be noted in order to make sure that these articles are not kept in a place which is insanitary or a fire hazard.
6. It should be ascertained whether the janitor understands his responsibility in the matter of keeping the doors unlocked, hallways and passages clear of obstructions, and the storing of inflammable materials in places safe from the standpoint of fire and general sanitation.

It was urged that children be thoroughly drilled in the matter of school exits during the fall so that it will not be necessary to have drills as often during stormy and inclement weather. Pupils and teachers should become familiar with the fire signal and should practice the drills until they can respond quickly to it, whether given by the principal, teacher, the janitor, or some outside person.

TEACHERS AS TEXTBOOK AUTHORS

There are city school systems in the United States where textbooks written by those who are in the employ of such school systems cannot legally be adopted if the author profits by such adoption. In such instances it has been found that the authors have surrendered their royalties to the school system.

In New York City this rule does not apply. By special provision of the charter and of the state education law the prohibition against school officials being interested in contracts does not apply to authors of textbooks. The provision has always been in the charter and superintendents and principals have always appeared among the authors of texts used in the schools.

The records of the board of education show that of 796,701 elementary schools, arithmetic books ordered the past five years in all but 21,974 were the work of authors within the school system.

William J. O'Shea, superintendent of schools, defends the practice under which most of the books used in the city school system are written by members of the system itself. He said he believed the "best people to write schoolbooks for use in New York City schools are the people who know the situation here."

"Drawing royalties is perfectly legal, and as a matter of fact the money derived from that sort of writing is less than in any other form of literary work."

SAFETY FOR SCHOOL CHILDREN

The National Safety Council has completed a study of children's accident reports, showing that during the past school year a total of 276,400 children of school age, suffered 5,311 accidents, each

one serious enough to require a doctor's attention or to cause the child to lose at least a half day from school. Of these accidents, 51 resulted fatally, and the remainder caused a loss of 17,500 days from school, or an average of 3.3 days per accident.

In the Council's opinion the magnitude of the child accident problem calls for definite and concerted action. In this direction, it is necessary to know which are the main hazards, and whether children of different ages are affected by these hazards to the same extent.

A study of the findings shows that there was a predominance of home accidents, which constituted nearly 32 per cent of the total accidents reported. "Other" accidents, including those which occurred at places other than home or school, and outside of school hours, totaled 24 per cent.

Of the school accidents, those occurring on school grounds were most numerous, comprising 20 per cent of the total of all types. These were followed by school-building accidents, which totaled 15 per cent, and those occurring on the way to or from school, which amounted to 9 per cent. These findings did not hold for the high-school grades, where other accidents were most numerous, and where school-building accidents were second in frequency.

♦ Fire-prevention week was observed in the schools of Weirton, W. Va., with the holding of fire drills in all the schools. All schools were checked for rapidity of exit from the buildings and for order and discipline in leaving the buildings. The schools were commended by the fire department for the excellent manner in which the buildings were cleared.

♦ Weirton, W. Va. The senior high school opened for the new school year, with an enrollment of 400 students, as compared with 389 for last year. It is anticipated that there will be 100 more students admitted at the opening of the second semester, which will make the total enrollment 550 or more. The increased enrollment has greatly taxed the capacity of the building which was built for 500 pupils. The school staff comprises 24 teachers.

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INCREASED DULUTH'S

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ATTENDANCE



Another example of the economies of filtered air—reduced heating, cleaning and redecorating costs and improved health conditions in Duluth public schools.

In the Endion School, typical of the entire group, the effects, determined in a survey by the A. C. Nielsen Company, Engineers, were: (1) *Fuel Saving*: An annual saving of \$714.00 in fuel cost, attributable principally to recirculation made possible by air filtration. (2) *Labor Saving*: A 75% reduction in cleaning requirements. (3) *Redecoration*: A probable extension of the period between inside redecoration from 3 to 4 years—saving \$105.00 per year. (4) *Improved Hygienic Con-*

ditions: A decrease of 13.8% in absenteeism, due wholly to air filtration and humidity control since there were no epidemics during either period under consideration.

American Air Filters protect health, reduce heating costs, save redecorating expense, prevent stock losses, control molds and bacteria, collect dangerous or valuable dusts, insure cleanliness of product, protect electrical machinery and prolong life of Diesel engines and air compressors. Fully described in literature which we will be glad to send you. Fill in and mail the coupon or write for full details to our Engineering Department. No charge. No obligation.

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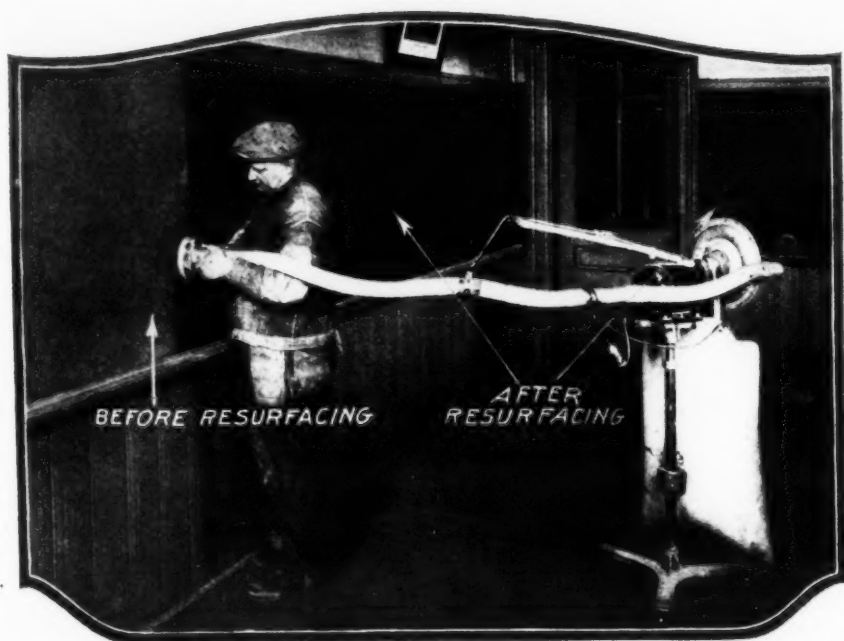
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RADIO EDUCATION

(Concluded from Page 36)

The radio lesson provides for the necessity of the development of ability to follow quickly and accurately the directions of the radio teacher. There is no chance for interruption through needless or even desirable questions. The thought of the pupil has a chance to become continuous and brilliantly active. The ordinary classroom recitation has a weakness in this direction. Continued thought, then, is more difficult, for there are continual distractions. The thought tends to follow certain lines set forth by questions, some of which may be relevant, but many of which are decidedly irrelevant.

Planned, definite listening instructions are available to the teacher, who, after evaluating them, may pass them on to the pupils with perhaps additional suggestions of her own.

11. To allow the teacher to study individual differences

Few teachers, especially those in the elementary school, have more than a few minutes during any one day, when they may study the members of their classes. Most of their time is taken up in hearing recitations. This becomes more largely true as the size of the school diminishes from the city system with one grade per teacher to the one-room school with eight grades to one teacher.

With the radio lesson, it is true, we expect the teacher to be supplying some activity as well as seeing to it that the pupils are doing certain things. But with this the teacher will still have the golden opportunities for studying individual differences. Interesting comparisons may be carried out between the attitude of the child, as he listens, and the degree to which he has been successful in his listening, as determined by the after-broadcast review.

12. To supply certain needed recreational benefits

The old theory of learning for discipline's sake is fast disappearing. We are understanding more fully that the pupil, being human, can progress much more rapidly if his learning is varied enough to escape becoming monotonous. Much of the value of visual aids, etc., can be traced to the fact that they vary the work of the child, thereby spreading interest over a longer period of time.

Any factory employee who stands at his machine day after day performing one simple operation over and over again, thousands and thousands of times, will naturally acquire no great love for his vocation. He remains at his job largely because nothing else is open to him, or because of the very nature of his task he is becoming a machine, with too little initiative to seek other means of earning a living. On the other hand, we have the executive type of position, which requires a different kind of activity altogether. Few hours in any day will be spent in doing the same task, or at least in doing it in the same way. This man is interested and stimulated by his job. He enjoys it.

We may find a parallel in the school child. He is even more in need of variety for, being younger, he remains satisfied with one type of activity a shorter time than does the adult. Teachers have been slow to recognize this need in pupils. To children, variety is the vehicle conveying interest, and interest in turn conveys the desire for purposeful activity, which in turn broadens the outlook, and thus advances the cause of education.

The radio lesson, being auditory, appeals to another sense. If we are able to combine with it the visual by the use of display materials, or with touch by the utilization of projects, then we shall have made an appeal to three of the most important learning senses. It is a favorite

axiom that the degree of learning is determined by the number of senses used.

ADMINISTRATION

♦ Mr. Leroy Howe has completed a study of the city superintendent in Indiana dealing with the changes in training, experience, tenure, and salary of superintendents in Indiana during the period from 1921 to 1929.

Mr. Howe concludes that the city superintendent of 1929-30 is a man with a high-school training, an A.B. degree, and possibly an M.A. degree, having a total of 177.3 weeks of college work above the high school and holding a life first-class license. He has a median experience of 24.6 years and has been in his present position 7.76 years, receiving an annual salary ranging from \$3,600 to \$3,700. He is an older man than the superintendent of 1921-22 by five or six years. The present school superintendent has been influenced by the school legislation of the past eight years, he has set himself to work to meet the advanced standards of training, and has been rewarded by longer tenure, better salary, and the privilege of holding his position longer than previous superintendents.

♦ Open school week will be celebrated in the schools of New York City from November 10 to 14 as a means of bringing three quarters of a million of parents into the public schools. Last year, through the combined efforts of the board of education, the school organizations, the principals and teachers, the number of parent-visitors was increased from 300,000 in 1928 to 500,000. This year it is expected that fully 750,000 visitors will come to the schools.

A reception committee meets the parents as they come to the schools and guides them to the rooms in which their children are at work. At some of the schools the parents' association serves tea in cooperation with the domestic-science department of the school.

♦ Visalia, Calif. The school district recently voted bonds in the amount of \$210,000 for building an additional classroom building, with auditorium and laboratories, for the high school. The proposed addition has been made necessary because of a large increase in enrollment.



Frank E. Hahn, and Brian Boylinson, Architects

Philadelphia's Smartest Residential Hotel Is Equipped with Hartshorn Window Shades . . .

"Combining the carefree luxury and convenience of an hotel with the dignity and charm of a private home," the Warwick in Philadelphia equipped its 1456 windows with shade cloth by Stewart Hartshorn.

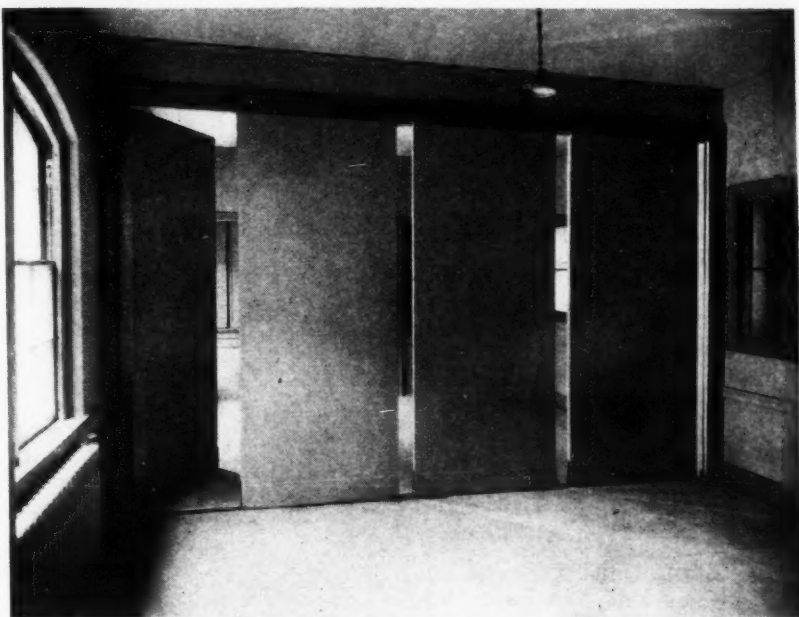
This shade cloth—spun, woven and finished by Stewart Hartshorn—represents the *enduring quality* demanded by discriminating architects and builders. Write for samples.

STEWART HARTSHORN COMPANY
250 Fifth Avenue, New York, N.Y.

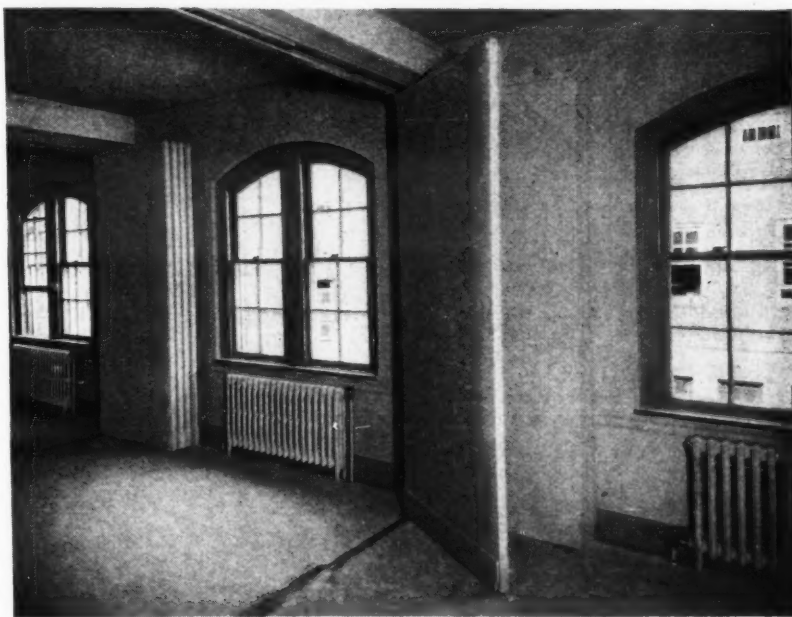
Hartshorn
EST. 1860
SHADE ROLLERS and
WINDOW SHADE CLOTH



The folding partition with *no hinges—no hangers*—All hardware is concealed and is so rugged that extreme abuse cannot impair its smooth operation.

Fairhurst Unit-Fold Partition installed in Passaic (N. J.) Y. W. C. A.
Louis E. Jallade, Architect, New York.

This Partition is made up of single door units. Each door rolls on two ball bearing wheels on a narrow track flush with the finished floor.



Another view of the Passaic Y. W. C. A. showing the partitions open. In the foreground it can be seen that each door swings back independently of the others. Beyond, the four units comprising the partition are folded against the wall.

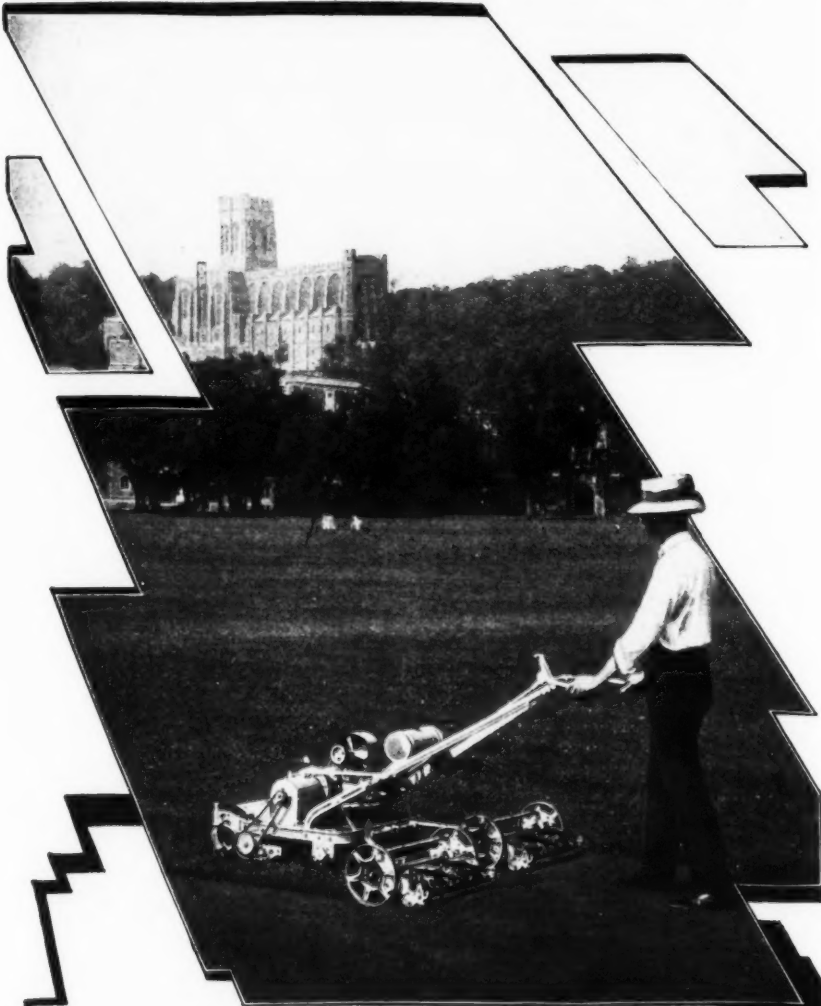
THIS IS IMPORTANT: Even excessive settling of a building does not hinder the smooth operation of a Fairhurst Partition because each door rolls on the floor and is connected to the over-head guide in such a way that any variation in the height of the opening is automatically compensated for. Large partitions for dividing auditoriums and gymnasiums are available, the single door units being most suitable for large work.

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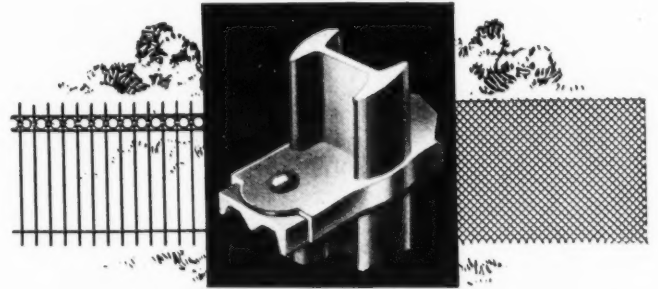
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for stands having a few rows, and only slightly higher for stands having a larger number of rows.

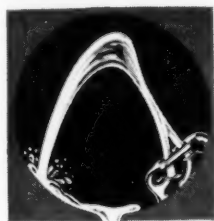
The Type E design contains exclusive features never before incorporated in a stand selling at such low prices.

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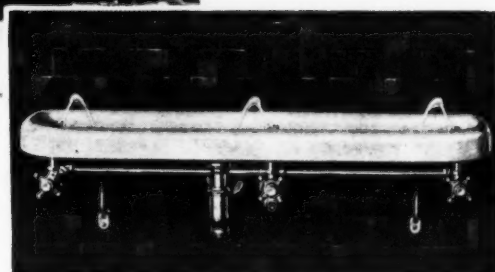
No lips need touch two-stream projector, which gives ideal hygienic and practical drinking mound with automatic stream control to guarantee uniform height of drinking stream regardless of pressure variation.



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School, Cleveland, O.
Geo. M. Hopkinson,
Arch't.

*You needn't worry about
servicing problems . . .*

Once a Halsey Taylor fountain is installed, there is a pleasant freedom from annoyance and frequent servicing. Stream is always at practical drinking height, water always in the bowl—not on the floor—regardless of pressure! A type for any need—write! The Halsey W. Taylor Co., Warren, O.



No. 703 (Battery Wall Type)

Cast-iron trough with apron vitreous enameled, on painted iron brackets; brass supply fittings; self-closing supply valves, loose key compression stop; three projectors!

HALSEY TAYLOR Drinking Fountains

CLEARFIELD'S SCHOOL ADVENTURES — III

(Concluded from Page 34)

At the suggestion of Superintendent Graham, we agreed to study this report carefully, with a view to its adoption at our next regular monthly board meeting. As we adjourned, Sam Jones remarked, "Ladies and gentlemen, we've had recently some very profitable monthly meetings." And there was no dissenting voice.

THE BUSINESS ADMINISTRATION OF CITY SCHOOL SYSTEMS AS SHOWN BY RULES AND REGULATIONS

(Concluded from Page 48)

have not been mentioned in the rules and regulations?

Of course these duties are performed, and performed in a more or less satisfactory manner. Schools could not function otherwise. However, the present consideration of the problem deals with business administration as set down in rules and regulations, not with practices such as opportunistic makeshifts in times of emergency, or oral agreements or understandings between boards of education and their officers.

The figures in this table show that rules and regulations present little agreement as to the business duties considered important enough to mention. They fail in practically all cases to provide definitely for the administration of all the important business duties that arise in connection with the administration of school systems.

(To be Concluded)

TWO INTERESTING RURAL SCHOOLS

(Concluded from Page 52)

ter, and the classrooms are fitted with hardwood floors and hardwood trim.

The building, which was designed by Messrs. Study & Farrar, St. Louis, cost \$40,000.

The new Moline District School, at Baden, Mo., is a three-room building intended to ac-

commodate about 100 children. The foundations are of cast stone, the bearing walls are of tile and brick, and the floors and partitions are of wood-joint construction. The outside steps are of concrete and the entry has a brick floor. The basement has a concrete floor, and the corridor and classrooms, as well as the stairs, are hard wood.

The building cost \$20,000 and was designed by Messrs. Study & Farrar, St. Louis, Mo.

THE LINCOLN SCHOOL, RIVERSIDE, CALIFORNIA

(Continued from Page 53)

room has an ornamental iron balcony at the rear and huge beams supporting the roof. A large basement room under the auditorium is floored with concrete and arranged for recreation during the rare periods of inclement weather. The boiler room and space for the janitor are also in the basement under the auditorium.

In the south wing of the building is the kindergarten measuring 68 by 34 ft. This room also faces east and south. The room has a large bay window or sunroom.

The classroom windows of the Lincoln School are of the three-sash type, with long blinds hanging from rollers above. The classrooms which are plastered have slate blackboards and linoleum tack strips. The classroom doors are of plain oak veneer, finished in natural color on the inside, and painted green on the outside, to harmonize with the other wood trim.

The administrative offices of the school consist of an office for the principal, a library, and a toilet. The pupils' toilets are on either end of the classroom section, with both outside and inside entrances. The teachers' room is on the second floor between the stairway and the auditorium.

There are seven classrooms on the second floor, two of which are above the kindergarten, and there are four classrooms on the first floor.

Following is the space occupied by the various units of Lincoln school:

	Square Feet	Percentage
10 classrooms	7,964	27.80
Cloisters, terraces, platforms, ramps	5,591	19.20
Auditorium, stage, projection room	4,134	14.40
Playroom, boiler room, ramps. Sunroom, grade room, platform, toilets, cloakroom	4,032	14.00
Stairways, passages, janitor's closet, wall lockers	2,434	8.50
Girls' and boys' toilets	1,827	6.40
Tin decks, composition roof	986	3.40
Office, teachers' room, platform, toilets, cloakroom	937	3.27
	885	3.1
Total	28,790	100.00

Detailed Cost Statement

General contract	\$74,538
Heating	5,687
Plumbing	5,640
Painting	2,990
Architect (6 per cent)	5,436
Standard time clock	448
Interior decorating	508
Electrical fixtures	342
Intercommunicating telephone	216
Grading	117
Tile	110

Total \$90,031

ORGANIZING THE HIGH SCHOOL FOR SUPERVISION

(Concluded from Page 59)

In about two thirds of the schools supervision is at present the joint responsibility of administrative officers and department heads or specialists. A study of the supervisory activities in these schools indicates that the more traditional supervisory activities, such as classroom visitation, are not only little used by supervisors but are little valued by teachers. On the other hand, principals are encouraging other types of activities which are well received by teachers. Group meetings, professional study, extension courses, and curriculum construction are examples. The suggestion is that general and special supervisors may be able to divide their activities in such a manner as to solve the problem. Perhaps there are certain activities (especially those which do not involve inspection or detailed

**IT IS THE UNFORSEEN EXPENSE ARISING FROM INCREASED
MAINTENANCE OR COSTLY BUILDING REPAIRS
THAT THROWS SCHOOL BUDGETS OFF**

CRANE

**AS FAR AS PLUMBING SYSTEMS GO, YOU CAN MINIMIZE SUCH UNFORSEEN
EXPENSES BY SELECTING CRANE QUALITY IN PIPING
MATERIALS AS WELL AS IN FIXTURES**

study of the individual teacher's work) which can best be carried on by the principal as a general supervisory officer. At the same time it may be that there are other activities like visitation and conferences in regard to detail of teaching method which can best be carried on by specialists who have no rating or inspectorial function. It would appear that the success of the plan would be determined by the care with which the various activities are studied and allocated to general and special supervisors.

The Influence of Teacher Training

A large proportion of the activity for instructional improvement in the high schools studied is teacher-initiated and conducted. It seems reasonable to expect that as teacher-training levels rise, teachers will assume more and more responsibility and initiative for the improvement of their own teaching. The result will perhaps be that the principal will not be looked upon as one "who tells teachers how to teach" but rather as a professional leader of teachers who are themselves competent to evaluate and improve their own teaching. In this way inspection and giving orders would assume a less important place in the principal's activities. Professional leadership and scientific attitude would be substituted for submission to authority.

Need of Experimental Studies

It appears that the solution of the problem of the organization for supervision in high school will depend upon the determination of the part which is to be played by principals and teachers in the various activities for the improvement of instruction. At the present time there is almost complete absence of experimental studies in the allocation of administrative or supervisory functions. The attitudes of teachers and other edu-

cators are, of course, largely based upon their experiences with the several types of organization under existing allocations of function. Other allocations of activities might operate to change the attitudes of both teachers and administrators. Experimental studies in this field are greatly needed.

SCHOOL BOARD NEWS

♦ Children's Book Week will be observed in the schools November 16 to 22.

♦ The American School of the Air is cooperating with educators throughout the country to establish an efficient and authoritative system of supplementary education by radio, in which it is hoped that science, industry, and education will contribute their experience and resources for the benefit of 6,000,000 boys and girls who benefit by this new method of instruction.

The Columbia Broadcasting Company, of New York City, sent representatives to the leading schoolmen of the country to get their opinions and suggestions on the likes and dislikes of children in the matter of radio subjects.

♦ A recent circular issued by the superintendent's office at Washington, D. C., asks for recommendations in the matter of changes in textbooks to be taken up on December 15. The four committees in charge of the respective divisions of the school system are asked to submit statements, indicating the weaknesses of the books to be displaced, and the merits of the books to be recommended for possible use.

Under the plan, books adopted are retained for three years. A change in textbooks renders the text replaced practically valueless, so that no change should be made without careful and intelligent study.

Each textbook committee is required to make a single report each year to the superintendent. No requests for changes for the succeeding school year may be made after the stipulated date. Suggestions and recommendations from teachers and school

officials are regularly solicited by the respective committees.

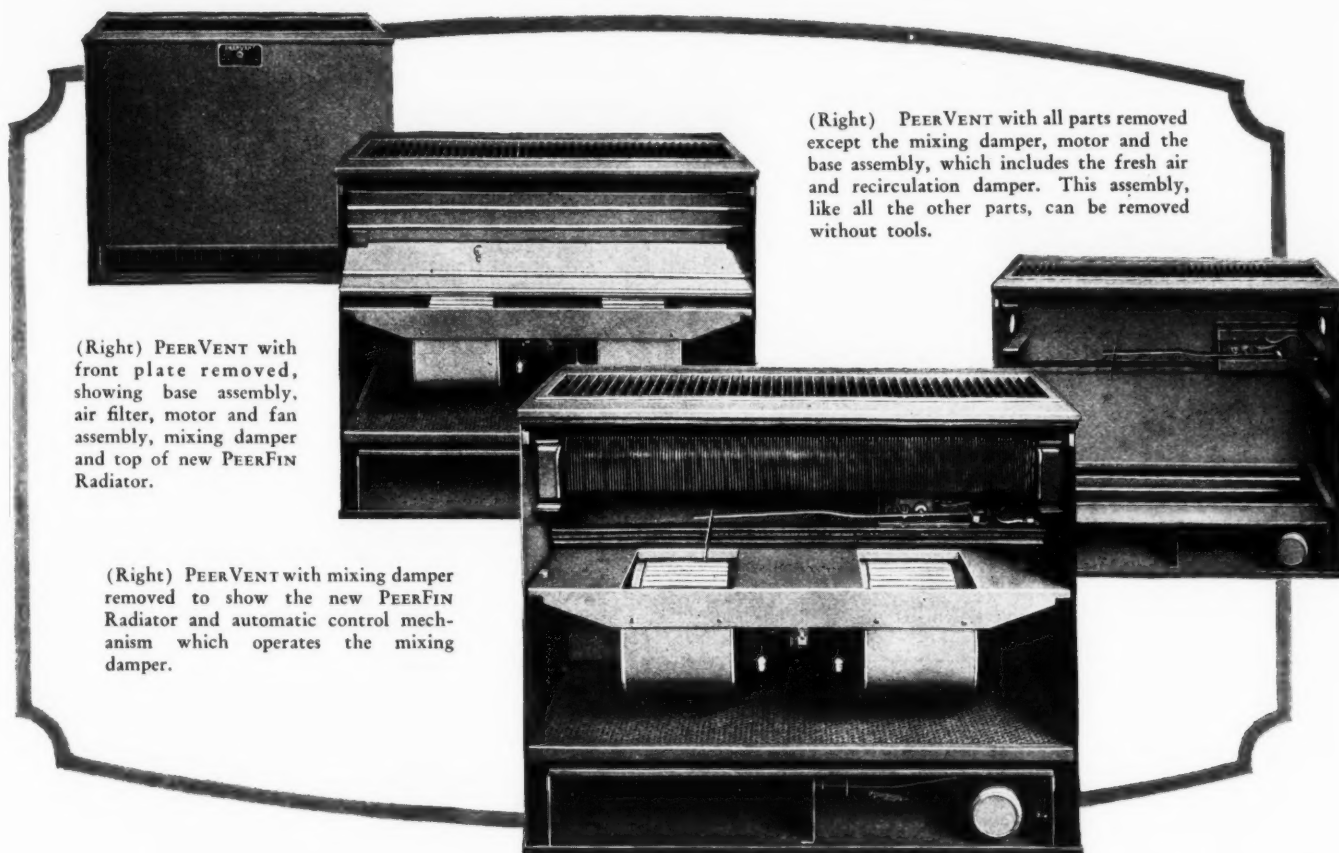
♦ The Montana Textbook Commission has changed the textbooks for elementary schools in three important subjects, to bring them up to modern standards. The changes which are the most radical in twenty years, affect all geographies, histories, and physiologies now in use. The order becomes effective in September, 1931.

♦ Seventy members of the teaching and supervising staffs of the New York City schools are authors of textbooks, from which principals have free access to requisition for use in their schools. The larger number of the books are used in the elementary schools. Supt. William J. O'Shea, associate and district superintendents, directors, and principals are among the authors of listed books.

The records of the school board show that most of the books ordered are those of official authority. Of 796,000 elementary-school arithmetics ordered during the past five years, all but 21,900 were the work of authors within the school system. Superintendent O'Shea has defended the practice under which most of the books used in the schools are written by members of the system. He believes the "best people to write such books are the people who know the situation in the city."

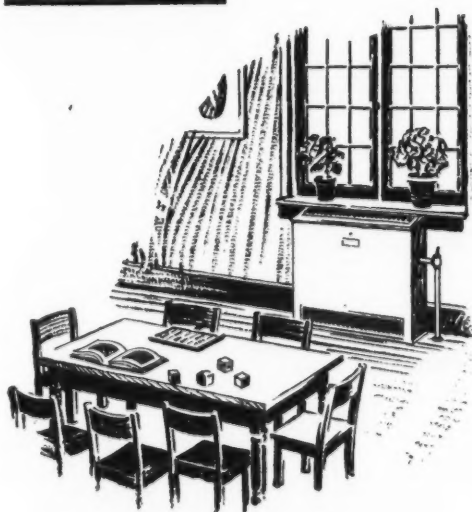
♦ The United Parents' Association of New York City, through its school lunch committee, has proposed a survey of eating places in school neighborhoods, taking up the matters of publicity, improvement, supervision of prices, ethics, food quality, and health standards. A study will be made of the department of health standards for lunchrooms and pushcarts in school districts.

♦ The school board of East Windsor, Conn., has completed the preparation of a new set of rules and regulations for the government of the schools. The preparation of the rules was accomplished under the direction of a committee, composed of Mr. G. S. Potwin, secretary of the board, and Mr. Alfred E. Standish, supervisor of the schools.



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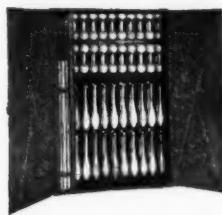
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State.....

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IDEAL STORAGE OF HAND APPARATUS IN



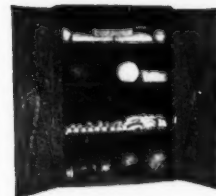
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Other cabinets for clubs or bells only.

Send for folders of other Steel Cabinets, Lockers, and Gymnasium Apparatus.



"K" Game Cabinet, 40" wide, 16½" deep, 60" high. Shelves with front edges turned up. Keeps game equipment under lock and key. Set up, \$24.00 net, Providence, R. I.

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CHICAGO
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SCHOOLHOUSE FIRE INSURANCE IN PENNSYLVANIA

(Concluded from Page 58)

Third, this brings us to the most vital and important result to be attained, which far beyond any other benefit derived, should cause serious consideration and early adoption of the plan by all districts: the conservation of the lives of school children and teachers. For years past, plans, suggestions, recommendations, and laws galore have been showered upon school boards, covering corrections and safety features, but experience has taught those of us who have endeavored to follow these suggestions, laws, etc., that they are mostly ineffectual, often unreasonable, and very expensive. Experience has also taught that no one can locate the real serious hazards as well as the trained eye of the expert insurance engineer and usually his recommended corrections are most simple and inexpensive. With the information derived by the use of the questionnaire the insurance engineer, through the insurance adviser, can, from time to time, inspect the various buildings, particularly those requiring corrections, with the object of advising how existing fire hazards can be eliminated at a minimum cost, which will usually result in a substantial reduction in rate. Above all, however, the school buildings, in becoming better insurance risks, immediately become safer buildings in which to house our children. A number of ghastly instances throughout the country could be cited where school boards waited until something happened before correcting fire hazards which caused unnecessary frightful loss of life and property.

A HIGH SCHOOL FOR FEW

(Continued from Page 54)

only 150 years ago saw the construction of one of California's earliest missions—San Juan Capistrano, built about 1780.

The classic entrance, which reflects only mildly the exuberant spirit of the Spanish Colonial architecture, dominates the front of the building and faces the Pacific and the setting sun. A cloister which extends to the left across the front of the building, emphasizes further the spirit of the design.

The vestibule is entered from the main doors, and leads to a foyer, from which the student or visitor may enter the principal's office, the main corridor of the school, the library, or the auditorium.

The main corridor of the building adjoins the various classrooms. Along the right side are four recitation rooms. On the left side of the

corridor there are two cloakrooms, with adjoining toilets, a restroom for the teachers, and a cooking laboratory. An outside door opens from the cooking room, from which supplies are received. At the end of the main corridor there is a general-science laboratory. All of the instructional rooms have casement windows, with transoms for ventilation.

The shops for manual training are located in a building entirely separate from the academic structure.

The auditorium has a modern stage and dressing rooms and is equipped for community use, as well as for school activities. The arrange-

(Concluded on Page 128)



AUDITORIUM AND DRESSING ROOM EXITS, SAN JUAN CAPISTRANO UNION HIGH SCHOOL, ORANGE COUNTY, CALIFORNIA
T. C. Kistner, Architect, San Diego, California



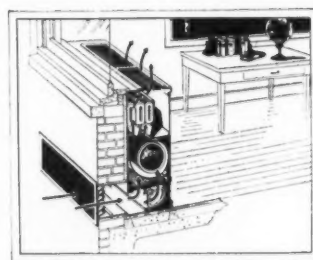
FALL is deepening into winter...it's open season for raw winds and sudden storms.

Let them blow! Windows are shut tight...yet the classroom is filled with pure outdoor air, filtered, tempered to even warmth, and circulated *without drafts*. Sturtevant Unit Heater-Ventilators keep the classroom healthful, comfortable, and always at the right temperature...regardless of the weather outside. Fresh in mind and body, students can get full benefit from their work.

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Large white figures on a gloss black field, framed in tiffany blue or class colors. Score changes and time flashes are executed by push button. The REMOTOMATIC comes a complete unit, ready to hang up and plug into any 110 volt outlet—either AC or DC.

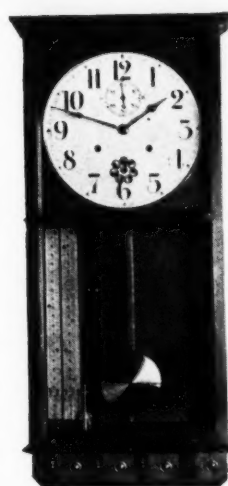
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THE MURPHY-DAVIS SIGNAL COMPANY, INC.
631 Jackson Street, Topeka, Kansas.

(Concluded from Page 126)

ment is such that the entire auditorium may be used without disturbing the school. Fire exits are numerous enough to care for the 300-odd seating capacity if it should be necessary to empty the room in an emergency.

The building has a flat roof, except over the two-story portion which is covered with dark-red tiles. The outer walls are light brown to harmonize with the red of the roof and the deep green of the surrounding planting.

LEGAL ASPECTS OF TEACHERS' CONTRACTS

(Concluded from Page 60)

termining the wording of teacher's contracts by states.

Details of Requirements

Table II shows the distribution by states of the frequencies of the statutory requirements shown in Table I. It is to be interpreted as follows: The 24 states listed are the only states making any of the statutory requirements listed in Table I. These 24 states account for the total of 44 frequencies each in the measure indicated. No state makes all 5 of the requirements; 3 states each make 4; 2 states each make 3; 7 states each make 2; and 12 states each make 1 of the requirements of stipulation in the contract form. This table also is compiled from Anderson's chart,¹⁸ which shows 23 states as making no statutory requirement of a stipulation in teachers' contracts. One state is shown making a stipulation not listed in Table I, hence all 48 states are accounted for.

Contractual duties, and the causes for and appeals from dismissal are, of course, affected by legislation whether contracts be required in writing or not. Every one of the 48 states has some legislation affecting the employment of

¹⁸Loc. cit.

TABLE I

Number of States Making Certain Statutory Requirements as to Teacher's Contract Forms

Stipulation Required in Contract	Number of States
The wages to be paid.....	14
Length of term in weeks or months.....	9
Amount of total pay.....	8
Contract form to be made or approved by State Board.....	7
Beginning date.....	6
Total No. frequencies.....	44

TABLE II

Distribution of the Frequencies of the Statutory Requirements Shown in Table I by States

State	No.	State	No.
Arkansas.....	2	Oregon.....	3
Delaware.....	1	South Dakota.....	3
Idaho.....	1	Vermont.....	2
Indiana.....	4	Virginia.....	2
Iowa.....	4	West Virginia.....	1
Kansas.....	1	Wisconsin.....	1
Maryland.....	1		
Massachusetts.....	1	Total No. Frequencies.....	44
Michigan.....	1		
Minnesota.....	2	Number of States listed.....	23
Mississippi.....	1	Number of States making no statutory requirement.....	24
Missouri.....	2	States making one statutory requirement not listed above.....	1
Nebraska.....	1	Total.....	48
Nevada.....	1		
New Jersey.....	2		
New York.....	2		
North Carolina.....	1		
Oklahoma.....	1		

teachers. The most common statutory provisions deal with the minimum length of the school term, 46 states; holidays, 41 states; pay for attending institute, 35 states; closing of school during institute, 27 states; length of term of teachers' contracts, 25 states; length of the school day, 26 states.

The most common duties of teachers required by statute are: the making of reports, 41 states;

keeping a daily register, 38 states; report truants, 23 states; to follow the course of study, 11 states.

The most common grounds for dismissal as provided by statutes are: immorality, 23 states; inefficiency, 23 states; willful neglect of duty, 24 states; misconduct, 11 states.

Conclusion

The law of contracts of employment applies to teacher's contracts except as modified by the statutes. A contract is an agreement—a "meeting of minds"—between two parties, the one offering a service or a position and the other accepting the service or position on exactly the terms of the offer. Such an agreement constitutes a contract and creates a legal obligation affecting both parties. This contract may or may not be evidenced by a written instrument. Thirty-five states require written instruments to evidence teachers' contracts with some or all school boards. Statutory requirements as to stipulations in the contract vary. The most common stipulations are as to the financial consideration and the length of term.

EQUAL PAY FOR NEW JERSEY TEACHERS SUSTAINED

Dr. Charles H. Elliott, New Jersey state commissioner of education, in a recent decision, has nullified the dual salary schedules of the board of education of Elizabeth, and has ordered the board to formulate a new schedule, paying eighteen women teachers the differences between the new and old rates.

It appears that the board of education of Elizabeth, New Jersey, in January, 1927, had adopted a salary schedule which discriminated against women teachers on the staff. The teachers involved appealed their case to the state commissioner of education, contending that the board had adopted a maximum salary of \$3,175 for men, and \$2,875 for women.



Four More of New Jersey's Modern Schools

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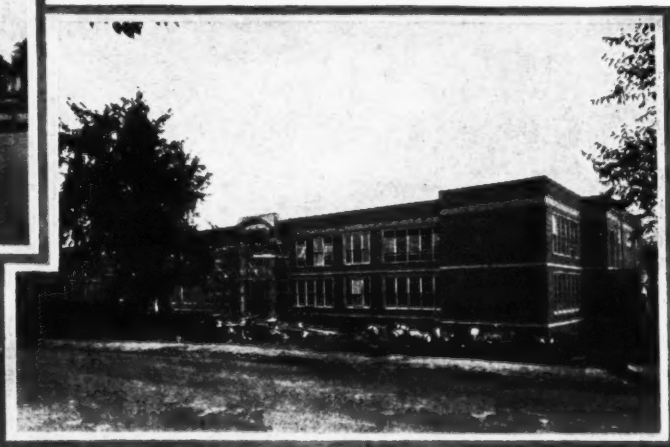
Buckeye Heatavent

Modern Ventilation

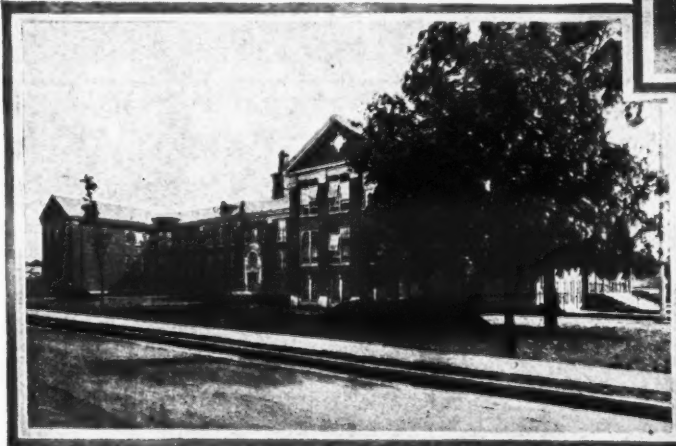
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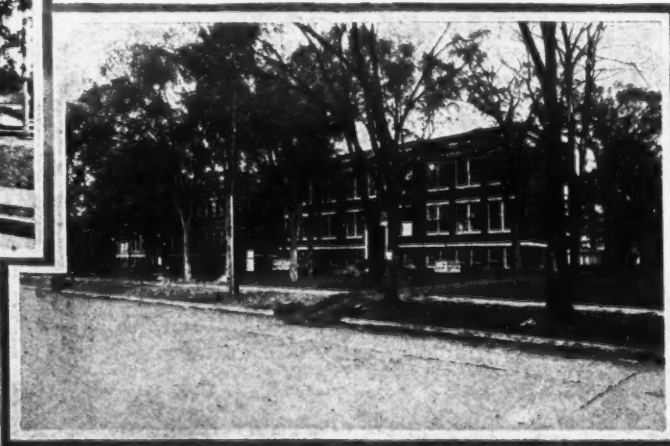


High School, Milburn, N. J.
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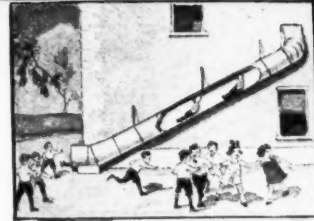


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School Hygiene and Sanitation

THE IMPORTANCE OF EARLY DISCOVERY OF IMPAIRMENT OF HEARING

Dr. Russell G. Means, Columbus, Ohio

Hearing tests in the Columbus Schools begin with the third-grade pupils and go through the ninth grade. It has been found that over 5.3 per cent of these children show enough defect in hearing to handicap them in their schoolwork.

It is difficult to arrange tests for children of a younger age, but teachers and parents should be very alert to recognize early deafness, and if found, a competent specialist should be consulted. Treatment should be followed until the hearing is restored. The important part of recognizing deafness is to realize the underlying causes and attack these diseases early, or more important still, is to prevent them if possible. Certain infections that constitute a menace to good hearing should be recognized. They are: frequent colds, sore throat or tonsillitis, a chronic discharging nose, or sinusitis, commonly called "sniffles." The acute eruptive fevers or contagious diseases as measles, scarlet fever, occasionally chicken pox, and frequently diphtheria often seriously affect ears. Diphtheria can be eliminated by immunization with toxin-antitoxin, and I want specially to make the plea to use scarlet fever antitoxin in every case of the disease, as even a light case may do great damage to the ears. Twelve per cent of all deafness can be traced to scarlet fever as a cause. No child should be needlessly exposed to any of these communicable diseases.

It has been stated that 50 per cent of all adults suffer with more or less deafness, and that 60 to 80 per cent of this great economic handicap could have been avoided by early preventive measures, or by early recognition and subsequent treatment.

Hearing cannot be normal in the presence of an obstructed or a "runny" nose. This indicates disease of the tonsils and adenoids or infection in the sinuses. If allowed to go untreated, detrimental changes in the ears are sure to follow. Prevent childhood diseases—treat all respiratory diseases seriously—never neglect an earache or a discharging ear. These are the "stop and look" signs that allow you to hear.

HYGIENE AND SANITATION

"There should be no hesitancy upon the part of a teacher in excluding from school any pupil apparently ill or suspected of being ill," says Dr. P. H. Bartholomew, state health director of Nebraska. "The principle of prevention must be uppermost in mind and action if incidence of disease is kept down and averted. School boards should sustain this constructive procedure. Occasionally where contagious disease develops, a strong inclination toward closing school arises. This obsolete practice should be discontinued, for experience has demonstrated that if schools are closed in the face of a threatened epidemic and pupils not kept isolated upon their respective premises, the disease is practically certain to spread."

♦ The audiometer will be used to detect defective hearing in pupils in the public schools of Illinois. Tests that will detect defective hearing are available for the benefit of all the pupils in the schools of Illinois. Arrangements for this service, in a scientific manner, and at no cost to the school districts or officials, were completed, through a conference between officials of the state departments of public health and public welfare.

♦ The health department, of New York state, in combating diphtheria, urges that the child entering school for the first time should especially be given

toxin-antitoxin. The department is engaged in a systematic campaign against diphtheria.

♦ The educational committee of the Wisconsin state medical society has recently declared that the health of the 175,000 rural school children is below that of the city children, due to the fact that city school children are provided with a more adequate medical-inspection service.

♦ The New York City health department has recently issued a pamphlet, describing the symptoms of the most common diseases, outlining the procedure that should be followed in preventing the spread of contagion in the schools. Each principal, assistant principal, and class teacher was asked to avail himself or herself of copies of the pamphlet.

♦ Cleveland, Ohio. Metabolism tests have been started among the retarded children in the schools as a means of determining the cause of low mentality. The tests are conducted under the direction of Miss Florence Cozad and Dr. L. W. Childs, director of school health work of the board of education. The school authorities hope to duplicate the results obtained in Detroit. They believe that approximately 128 school children will be found in need of treatment for the thyroid gland.

♦ The health committee of the county board of Jefferson county, Wis., has begun a campaign to have all children immunized against diphtheria. An effort has been made to carry out the treatment among all preschool children, and school children who were not reached last year.

♦ The school system of Painesville, Ohio, has undertaken a program of health inspection with a view of correcting remedial defects. Pupils are examined for sight, hearing, gland condition, and defects of feet or posture. The height and weight of each pupil is recorded in connection with the examination.

♦ Denver, Colo. A sight-saving class, the first of its kind in the city, has been organized in the Evans School. The class will enroll children with defective sight from all parts of the city.

♦ Burton D. McCormick, of the state department was the principal speaker at the informal dedication of the new school at Mohawk, N. Y. President G. A. Burton, of the board of education, presided.

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This is one of the 200 schools in Ohio that remove ashes the G&G way

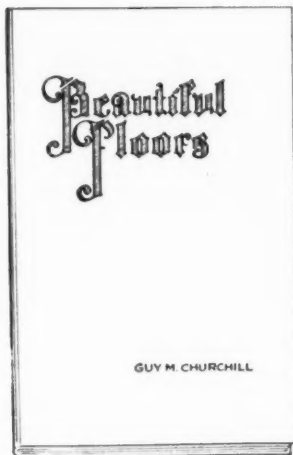
EVERY school official is concerned with the safe performance of all tasks in and about the school building. Old-fashioned ash removal methods with their noise and confusion—and accident-trap sidewalk openings had to go. . . . Throughout the nation, where schools are heated by coal-burning systems, G&G Ash Removal Equipment is being installed. It is now found in schools in 44 states. It is now *standard equipment* with Boards of Education in many of the larger cities.

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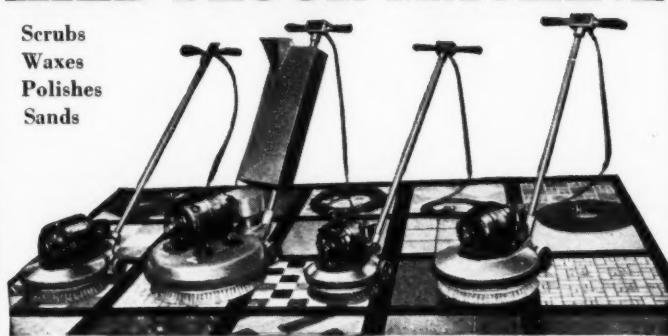
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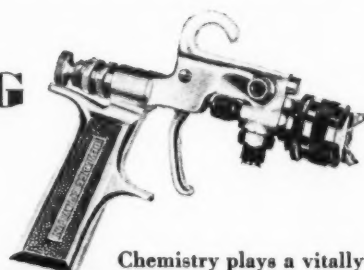
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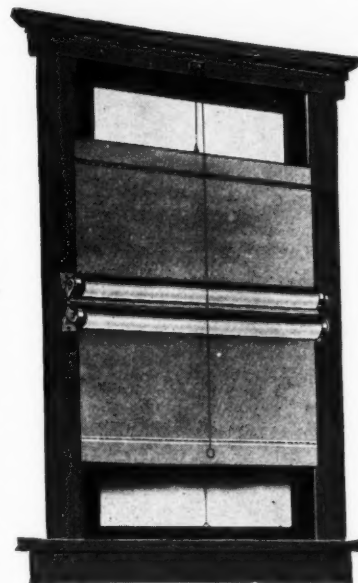
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SCHOOL ADMINISTRATION NOTES

♦ New York, N. Y. The school board has recently adopted the procedure to be followed in the reappointment of teachers who seek to reënter the school system after having resigned.

Under the rules, all teachers who have been away from the school system for a year or more must take an examination for reëntry. For this purpose, special reëntry examinations are to be held by the board of examiners from time to time. Those who pass the examinations will be placed on eligible lists, which will be valid for three years from the date of placement.

There are no preferential appointments. The lists established as a result of the reëntry examinations will be used only after all preceding eligible lists in the respective subjects have been exhausted. Teachers out of the service for less than a year will be permitted to return without examination.

Another matter settled was the question of the compensation to be paid to reappointed teachers. Teachers whose applications were before the board at the time the new rule was adopted will not be deprived of their full salary allowance. Under a new rule of the board, it is provided that, in all cases of reappointment in which applications for restoration to service were filed prior to September 24 of this year, such teachers will be given the salary credit allowed under the old rule.

♦ A protest against the employment of married women teachers has reached the Cincinnati board of education. Supt. Edward D. Roberts has been instructed to report on the status of the married women teachers in the Cincinnati schools, and to accumulate specific information as to the administrative practice in the matter in other cities.

♦ Youngstown, Ohio. The school board has adopted new rules governing the employment of substitute teachers in the schools. The rules provide for the listing of substitutes in separate alphabetical lists for the first three grades, the elementary grades, and according to subjects in the junior and senior high schools. They prohibit principals from calling substitutes and provide for the alphabetical rotation of employment. Substitute teachers are allowed to continue during an extended absence of the regular teacher until a new teacher is appointed. They may be removed from service at any time after an investigation.

♦ The merits of the teacher-tenure system is being questioned by the New York State Association of School Boards. A recent bulletin issued by the association says: "Permanent tenure has not proved beneficial, judging from any accurately secured data assembled thus far. There are many cases where it has resulted in the retaining of inefficient teachers and it was the consensus of opinion that a change in the present law is desirable."

♦ Pres. Charles F. Thwing, of the Western Reserve University, opposes the reduction of teachers' wages. He says: "Proper salaries should be paid not only for the sake of today, but for the sake of tomorrow. If we pay inadequate salaries today the best talent will not be inclined to enter the profession tomorrow. An adequate salary right along tends to lift up the profession. A depression in salary depresses the quality and the level of the teaching profession."

♦ Cleveland, Ohio. A new system of instruction, under which one teacher will handle a class of 250 pupils, has been tried out in the high school with the opening of the fall term. If the experiment proves successful, it will be adopted in all the high schools. The new system which is similar to the lecture plan used in universities, was begun with lectures in history, English, and science. Under the plan, the number of teachers is reduced, since one instructor can teach eight or ten times as many students as under the old system of group instruction.

♦ Huron, Ohio. A complete radio equipment, with individual hook-ups for each room in the school building, has been installed. By means of a special switch, the radio broadcasts to all rooms, or to any room as desired. Programs for the younger children may be separated from those for the older children.

♦ Lodi, Ohio. A radio equipment has been installed which is capable of sending and receiving in each of the 24 rooms of the school.

♦ Cleveland, Ohio. The sixth floor of the new Cleveland school-administration building on the Mall will be the location of a school radio broadcasting station.

♦ Buffalo, N. Y. A decrease of 300 persons on the teaching staff of the public schools was effected with the opening of the fall term. The reduction was accomplished through leaving unfilled positions made vacant by resignations.

♦ Westfield, Mass. A new policy in rural-school administration has been adopted this year. The state education department, through Dr. Charles Russell, principal of the Westfield State Normal School, has assumed control of the supervision in the two remaining rural schools of Wyben and Mundale. The two schools will be conducted as model schools.

♦ The school board of Wilkes-Barre township, Luzerne county, Pa., has reduced the school year from ten to nine months, due to a loss of revenue caused by a radical reduction in coal-land valuation.

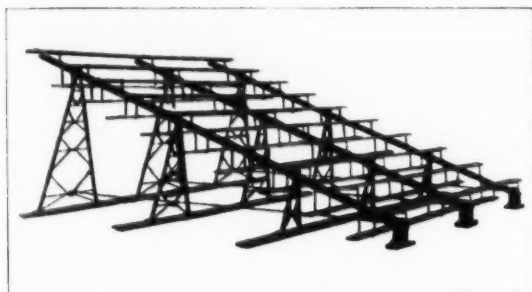
♦ Dr. T. Howard Winters, assistant director of education of Ohio, has recently completed a condensed codification of the laws of the state pertaining to teachers' duties. The compilation is arranged to provide numbers at the end of each paragraph, which relates to the section, or sections of the law upon which they are based.

♦ The proposed school employees' pension fund was discussed by the representatives of schools in six northwestern Ohio counties, at a meeting held on October 3, in the Central High School, Lima, Ohio. The movement is being promoted under the direction of Mr. O. W. Scheufler, president of the Northwest Ohio School Employees' Association.

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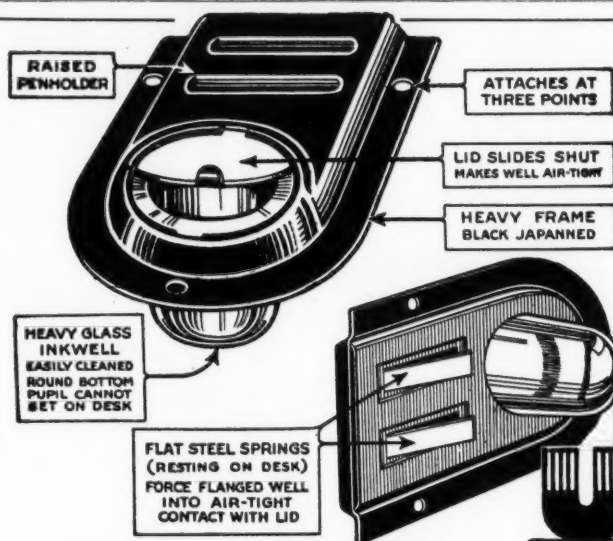
Universal Steelbilt Bleachers were designed to meet the problem of safety and stood a test of five times the normal load which was required. And have a record of never yet having a section of these bleachers go down.

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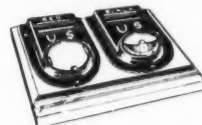
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♦ The New York City board of education will shortly receive a report from the committee on law, regarding the proposal to maintain the salary status of principals whose schools suffer a reduction in the number of classes between now and the end of the school year. The amendment seeks to save the principals from corresponding salary reduction.

♦ The American Bankers' Association, of New York City, has issued a statement, in which it points out that there has been a reduction in the amount of school savings due to the present unemployment situation. The association pointed out that undoubtedly there have been times when necessity on the part of parents has made it necessary to dip into the savings of the children. A number of banks have reported unsatisfactory deposits due to the extent of unemployment in the respective areas.

♦ New York, N. Y. The school board has been asked to approve a recommendation, providing that newly appointed teachers and clerks who avail themselves of the by-law allowing them to be absent on religious holidays, shall not be penalized more than one twenty-fifth of a month's pay.

Last summer the school heads amended their by-laws so that teachers would be allowed five days' absence a year for the observance of religious holidays. While absent, such teachers will lose the pay of a substitute teacher.

♦ The school board of Wilmington, Del., has been asked to approve a recommendation of Supt. S. M. Stouffer, providing for the appointment of Dr. Zenas R. Clark as director of research and attendance, at a salary of \$3,500 per annum. Dr. Clark has had nine years of experience in public-school work as high-school teacher, principal, and director of remedial work. He has had considerable experience in survey work, having been a member of survey committees in various communities.

The duties of the research director, as outlined, will include (1) curriculum revision, (2) testing, (3) collecting and organizing statistical data for publicity, (4) evaluation of present practices and recommendation of new procedures on the basis

of scientific data, (5) promotion of school-building programs, (6) director of child accounting and school-census work.

With the approval of Supt. U. B. Jeffries and of the school board, the high-school program at Charleston, Ill., has been reorganized, to provide an eight-period day in place of the former seven-period day. Sessions begin at 8:15 a.m., and close at 3:30 p.m. The period from 3:30 to 4:00 p.m. is being used for conferences, activities, and meetings. Teachers are required to remain in their classrooms until 4:00 p.m., but are urged to leave the buildings promptly at 4:30, in order that they may enjoy some leisure in which to engage in other activities, or to snatch a brief rest before eating their evening meal. It was suggested that the teachers spend too much time in the school buildings and that they would be fresh and better able to teach if they shortened their stay in the building.

During the present school year, an assembly period will be held weekly on the alternating plan. A complete program for the entire first semester has been prepared under the direction of Principal V. L. Langford.

SCHOOL RECORD AN INDEX OF SUCCESS

The scholastic record which a student makes in high school is an indication of his probable success in college, according to a recent study of Prof. Carl C. Brigham, of Princeton University, in a report which he recently made to the institution. The report dealt with the results of a ten-year study of the value of intelligence tests as an aid in admitting students to the engineering courses at Cooper Union.

High-school achievement in itself, said Professor Brigham, is not a complete guide, but must be weighed against performance in intelligence and placement tests in order that satisfactory standards of fitness may be reached. Under the system at Cooper Union, if an applicant stands in the upper tenth of his high-school class, the only additional requirement is the attainment of a score showing the probability of a rank in the upper 75 per cent of college applicants in general. Applicants presenting less satisfactory credentials are required to

make higher marks in the intelligence and placement tests. Where an applicant ranks in the upper quarter of his high-school class, but not in the upper tenth, a test score is required which indicates that he is in the upper 55 per cent of all college applicants.

The system of admission requires that the applicant must stand in the upper 45 per cent of college applicants in general. It makes no provision for those ranking in the lower half of their high-school class.

RULES

♦ West Allis, Wis. The school board has adopted a set of rules governing the conduct of each member and employee of the board. Under the rules, no employee will be permitted to circulate or sign nomination papers, contribute to any campaign fund, or be active in any way in soliciting votes for any candidate for election to the board of education. The board has adopted a resolution, forbidding the use of any school building for campaign purposes.

♦ The board of education of Meriden, Conn., ruled to employ only residents as teachers hereafter. This was followed by the dismissal of fifteen teachers who came from outside of Meriden.

♦ St. Louis, Mo. The school board has revised its rules governing the sale of property to the board. Under the rules, the secretary and treasurer is authorized to employ reliable and competent real estate agents to procure purchasers for property offered for sale by the board, the agents to receive the usual commission established by the local real estate board. The secretary and treasurer is also authorized to cause a valuation to be made of the real estate of the board held for revenue purposes, and to cause a notice to be placed on each piece of land that the same is offered for sale or lease. The valuation is to be made by two competent appraisers, whose compensation is no more than is customary in such cases.

When property is offered for sale to the board, a valuation must be made by a competent appraiser or appraisers, whose compensation shall be no more than is customary in such cases.

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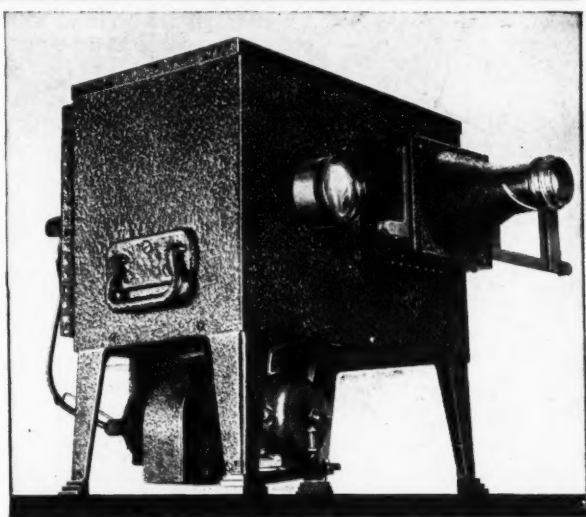
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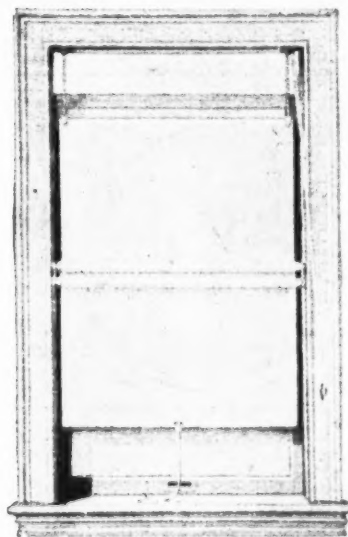
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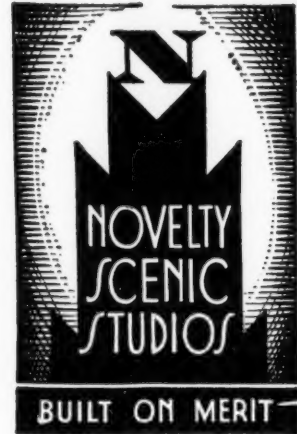
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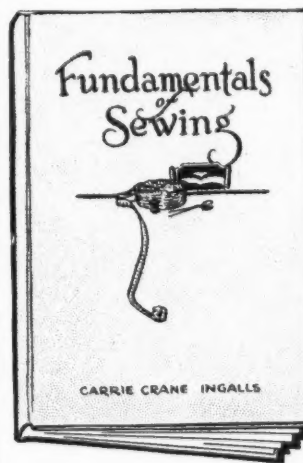
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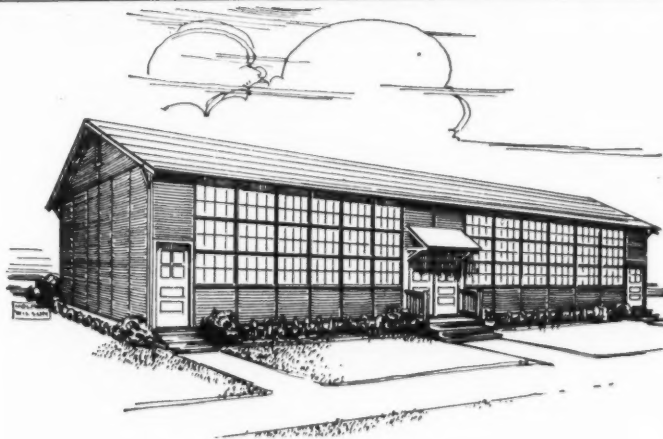
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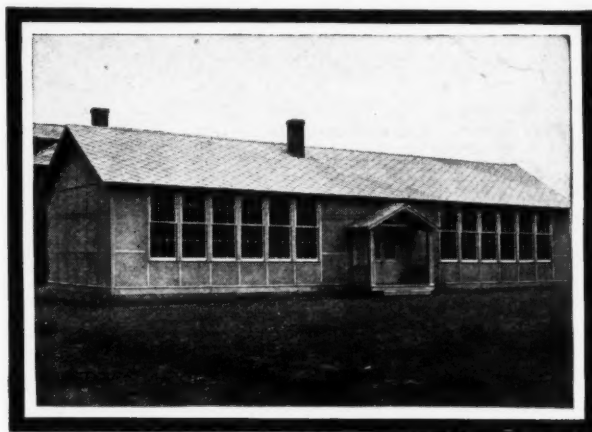
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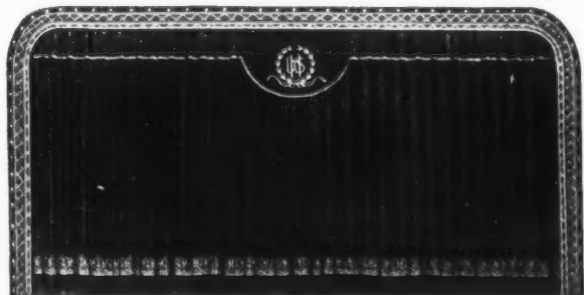
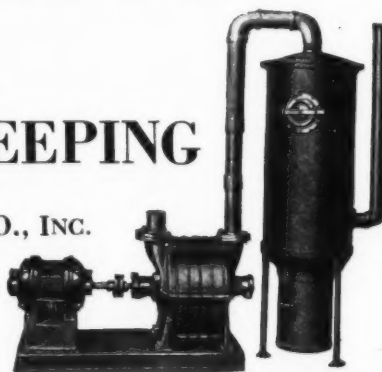
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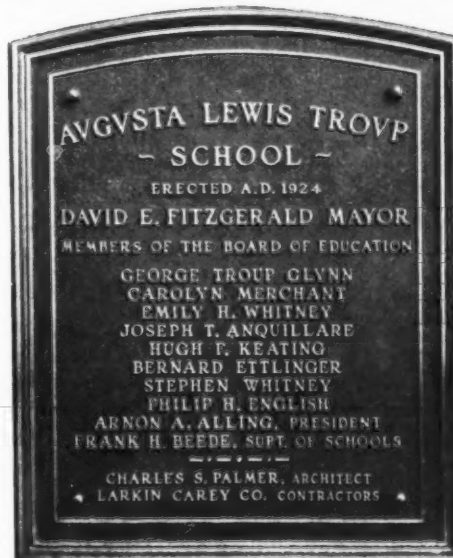
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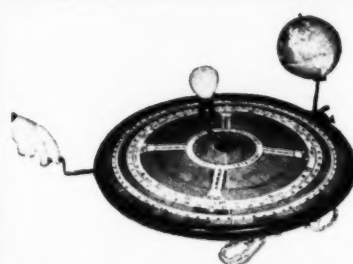
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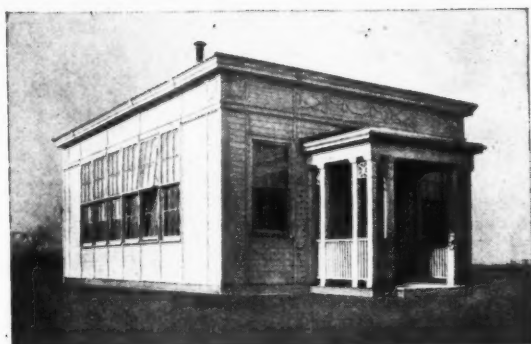
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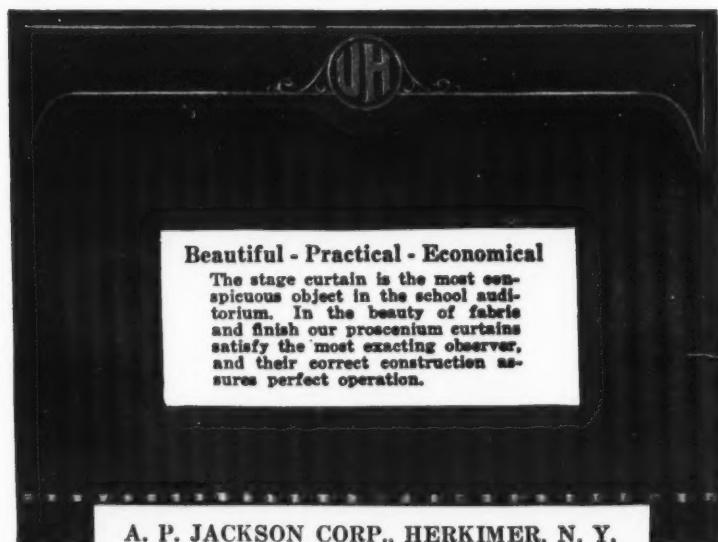
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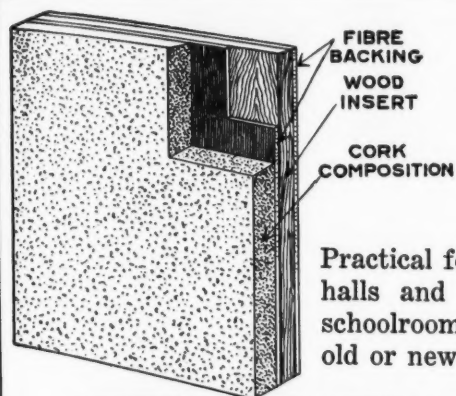
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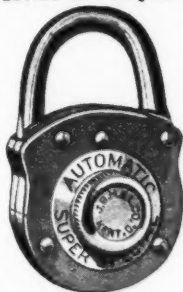
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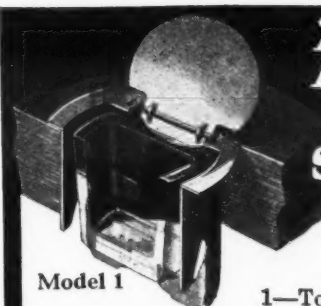
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SANITARY INK-WELLS**

*They Possess
7 Definite Superiorities*

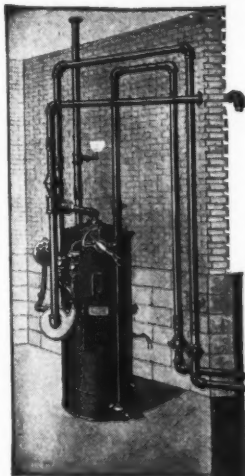
1—Top made of heavy brass nicked or enameled. 2—Rust-proof and unbreakable. 3—Spring barrel protects glass ink container. 4—Unaffected by the shrinking or swelling of desk tops. 5—Locks permanently in desk. 6—Glass ink container has no lugs to chip or break off and is easy to clean. 7—Economical—holds just the proper amount of ink—not enough to become thick and unusable.

Write for free sample of this inkwell, known as our Model 1, for inspection.

THE TANNEWITZ WORKS

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ELECTRICALLY OPERATED, AUTOMATIC GAS MACHINE Requires No Attention

Write to us for list of colleges and high schools using our machine. Illustrated Catalogue Will Be Sent on Request.

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This Machine Will
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COMPLETE
STAGE
EQUIPMENT



SEND
FOR
CATALOGUE

TIFFIN
Scenic Studios
TIFFIN, OHIO

Directory of Equipment and Supplies

ACOUSTICAL TREATMENT

Celotex Company, The
Johns-Manville Corp.
U. S. Gypsum Co.

ADJUSTABLE WINDOW SHADES

Athey Company, The
Draper Shade Co., L. O.
Forse Manufacturing Co.
Maxwell & Co., Inc., S. A.
Rowles Co., E. W. A.

AIR CONDITIONING

American Air Filter Company, Inc.
Buckeye Blower Company
Nelson Corporation, The Herman
Peerless Unit Ventilation Co., Inc.
Sturtevant Co., B. F.

AIR FILTERS

American Air Filter Co., Inc.

AIR WASHERS

American Air Filter Company, Inc.
Sturtevant Company, B. F.

ARCHITECTS

(See Schoolhouse Architects' Directory)

ASH HOISTS

Gillis & Geoghegan

AUDITORIUM DRAPERIES

Volland Scenic Studios

AUDITORIUM SEATING

American Seating Company
Haywood-Wakefield Co.
Kundts Company, The Theodor
National School Equipment Co.
Peabody Seating Co.
Rowles Co., E. W. A.
Standard Mfg. Company
Welch Company, W. M.

AUTOMATIC TELEPHONE SYSTEMS

Automatic Electric, Inc.
North Electric Mfg. Company, The

BASEMENT WINDOWS—STEEL

Truscon Steel Company

BIOLOGICAL SUPPLIES

Welch Mfg. Company, W. M.

BLACKBOARD CLEANERS

Beckley-Cardy Company
Eagle Soap Corporation
Midland Chemical Laboratories
Oakite Products, Inc.
Rowles Co., E. W. A.
Weber Costello Company

BLACKBOARDS—MANUFACTURED

Beckley-Cardy Company
N. Y. Silicate Book Slate Co.
Rowles Co., E. W. A.
Standard Blackboard Company
Valleyco Company, The
Weber Costello Company

BLACKBOARDS—SLATE

Natural Slate Blackboard Co.
Rowles Co., E. W. A.

BLEACHERS

Circle A Products Corp.
Minter Homes Corporation
Pittsburgh-Des Moines Steel Co.
Universal Equipment Co.
Wayne Iron Works

BOILERS

Heggie Simplex Boiler Company
Kewanee Boiler Company

BOILER COMPOUNDS

Eagle Soap Corporation
Midland Chemical Laboratories

BOOK CASES

Peterson & Company, Leonard
Remington-Rand Business Service, Inc.
Welch Manufacturing Company, W. M.

BOOK COVERS

Holden Patent Book Cover Co.
Iroquois Publishing Company

BOOKKEEPING MACHINES

Remington-Rand Business Service, Inc.

BOOK PUBLISHERS

American Book Company
Beckley-Cardy Company
Bruce Publishing Co.
Grege Publishing Company
Houghton, Mifflin Co.
Iroquois Publishing Company
Lafayette Brothers
Lippincott Company, J. B.
Winston Co., The John C.

BOX LOCKERS (STEEL)

Durabilt Steel Locker Co.

BRONZE TABLETS

Russell & Sons Co., Albert

BRONZE TABLETS, SIGNS, LETTERS

Russell & Sons Co., Albert

BRUSHES

Eagle Soap Corporation
Midland Chemical Laboratories

BUILDING MATERIALS

Asbestos Buildings Company
Celotex Company, The
Common Brick Mfrs. Ass'n, The
Johns-Manville Corp.
North Western Steel Products Company
Sonneborn Sons, L.
Truscon Steel Company
U. S. Gypsum Co.

BULLETIN BOARDS

Beckley-Cardy Company
N. Y. Silicate Book Slate Co.
Rowles Co., E. W. A.
Welch Mfg. Co., W. M.
Weber Costello Company

BUS BODIES

Wiener Body Corp.

BUSES

Dodge Brothers Corp.

CABINETS

Park, Winton & True Co.

CABINETS (STORAGE) (STEEL)

Durabilt Steel Locker Co.

CABINETS (WARDROBE) (STEEL)

Durabilt Steel Locker Co.

CAFETERIA EQUIPMENT

Dougherty & Sons, Inc., W. F.
Rani Products Co., The
Standard Gas Equipment Corp.
Welch Mfg. Co., W. M.

CANVAS GOODS

Tucker Duck & Rubber Co.

CHAIRS

Algoma Wood Products Co.
Beckley-Cardy Company
Clarin Manufacturing Co.
Great Northern Chair Co., The
Maple City Stamping Company
Peabody Seating Co.
Royal Metal Mfg. Co.
Stakmore Company
Standard School Equipment Co.
Tucker Duck & Rubber Co.
Wark-Beacon Steel Furniture Co.
Welch Mfg. Co., W. M.

CHAIRS—FOLDING

Clarin Mfg. Company
Maple City Stamping Company
Northern Corrugating Co.
Peabody Seating Co.
Rowles Co., E. W. A.
Royal Metal Mfg. Co.
Rastetter & Sons Co., Louis
Standard Mfg. Company
Tucker Duck & Rubber Co.
Vitek Mfg. Co.
Welch Mfg. Co., W. M.

CHALKS

American Crayon Company
Beckley-Cardy Company
Binney & Smith Co.
Rowles Co., E. W. A.
Weber Costello Company
Welch Mfg. Co., W. M.

CHARTS

Weber Costello Co.

CLASSROOM FILMS

Eastman Teaching Films, Inc.

CHEMISTRY SUPPLIES

Welch Mfg. Co., W. M.

CLEANING COMPOUNDS

Continental Chemical Corporation
Midland Chemical Laboratories
Oakite Products, Inc.

CLEANING PRODUCTS

Eagle Soap Corporation

CLOCKS—PROGRAM

International Business Machines Corp.
Murphy-Davis Signal Co.
Standard Electric Time Co.

CLOTH BLACKBOARDS

Beckley-Cardy Company
N. Y. Silicate Book Slate Co.
Weber Costello Company

COMBINATION LOCKS

Barrett Lock Co., Inc., The
Dudley Lock Corporation, The
Greene Tweed Corp.
Miller Keyless Lock Co., J. B.

CONCRETE MARBLE

Concrete Marble Company

CORK TILE AND CORK CARPET

Congoleum-Nairn, Inc.

COOKING APPARATUS

Dougherty & Sons, Inc., W. F.

CRAYONS

American Crayon Company
Beckley-Cardy Company
Binney & Smith Co.
Flanagan Company, A.
National Crayon Co.
Rowles Co., E. W. A.
Weber Costello Company
Welch Mfg. Co., W. M.

CRAYON COMPASSES

N. Y. Silicate Book Slate Co.
Weber Costello Company

CRAYON TROUGHS

Dudfield Manufacturing Company
Weber Costello Company

DAMP-PROOFING

Sonneborn Sons, L.
Truscon Steel Company
Vortex Mfg. Co.

DEAFENING QUILT

Celotex Company, The

DESKS—OFFICE

Beckley-Cardy Company
Imperial Desk Company
Rowles Co., E. W. A.
Welch Mfg. Co., W. M.

DIPLOMAS

Beckley-Cardy Company
Welch Mfg. Co., W. M.

DISHWASHING COMPOUNDS

Eagle Soap Corporation
Midland Chemical Laboratories
Oakite Products, Inc.

DISINFECTANTS

Continental Chemical Corporation
Eagle Soap Corporation
Midland Chemical Laboratories

DOMESTIC SCIENCE EQUIPMENT

Christiansen, C.
Dougherty & Sons, Inc., W. F.
Kewanee Mfg. Co.
Kimball Company, W. W.
Peterson & Co., Leonard
Shelton & Co., E. H.
Standard Gas Equipment Corp.
Welch Mfg. Co., W. M.

DOORS

Irvine Hamlin
Richards-Wilcox Mfg. Co.
Roddie Lumber & Veneer Co.

DOORS, STEEL-FIREPROOF

Truscon Steel Company

DRAFTING DEPT. FURNITURE

Bradley Company, Milton
Christiansen, C.
Kewanee Mfg. Company
Rowles Co., E. W. A.
Shelton & Co., E. H.
Welch Mfg. Co., W. M.

DRIERS—HAND AND FACE

Chicago Hardware Foundry Co.

DRINKING FOUNTAINS

Clow & Sons, James B.
Crane Co.
Rundle-Spence Mfg. Company
Taylor Company, Halsey W.

DUPPLICATORS

Dick Co., A. B.
Ditto, Inc.

ELECTRIC DRIERS

Chicago Hardware Foundry Co.

ELECTRICAL EQUIPMENT

Westinghouse Electric & Mfg. Co.

ERASERS

Beckley-Cardy Company
Rowles Co., E. W. A.
Weber Costello Co.

ERASER CLEANERS

Weber Costello Company

FENCES

Anchor Post Fence Company
Clay Equipment Corp.
Cyclone Fence Co.
Page Fence Association
Stewart Iron Works Co., The

FILING SYSTEMS

Remington-Rand Business Service, Inc.

FIRE ALARM SYSTEMS

International Business Machines Corp.
Standard Electric Time Company

FIRE ESCAPES

Potter Manufacturing Corp.

FIRE EXIT LATCHES

Potter Manufacturing Corp.
Steffens-Amberg Company
Vonnegut Hardware Co.

FIRE EXTINGUISHERS

Harker Manufacturing Co.

FIREPROOF DOORS

Detroit Steel Products Co.
Truscon Steel Company

FIRE INSURANCE

Federation of Mutual Fire Insurance Companies
Home Insurance Company, The

FIREPROOFING MATERIALS

Asbestos Buildings Company

FLAGS

Annin & Co.

FLAG POLES

Bielefeld & Company, Otto
Rowles Co., E. W. A.

FLOOR COVERING

Congoleum-Nairn, Inc.
Heywood-Wakefield Co.

FLOOR FINISHES

Churchill Manufacturing Co.
Continental Chemical Corporation
Eagle Soap Corporation
Hild Floor Machine Co.
Midland Chemical Laboratories
Wis-Co-Lac Co., The

FLOORING

Carter Bloxonend Flooring Co.
Congoleum-Nairn, Inc.
Truscon Steel Company

FLOORING COMPOSITION

Congoleum-Nairn, Inc.

FLOOR SCRUBBING EQUIPMENT

American Floor Surfacing Machine Co.
Hild Floor Machine Co.
Finnell System, Inc.

FLOORS, STEEL FIREPROOF

Truscon Steel Company

FLOOR TILES

Congoleum-Nairn, Inc.
Norton Company

FLOOR TREATMENTS

Churchill Manufacturing Co.
Continental Chemical Corporation
Eagle Soap Corporation
Midland Chemical Laboratories
Sonneborn Sons, L.

FLOOR TREATING COMPOUNDS

Continental Chemical Corporation

FLOOR WAX

Johnson & Son, S. C.

FLUSH VALVES

Clow & Sons, James B.
Crane Co.

FOLDING CHAIRS

Clarin Mfg. Company
Maple City Stamping Company
Northern Corrugating Co.
Peabody Seating Co.
Rastetter & Sons Co., Louis
Rowles Co., E. W. A.
Royal Metal Mfg. Co.
Stakmore Company
Standard Mfg. Company
Tucker Duck & Rubber Co.
Welch Mfg. Co., W. M.

FOLDING PARTITIONS

Hamlin, Irving
Richards-Wilcox Mfg. Co.
Horn Folding Partition Co.,
Park, Winton & True Co.
Wilson Corp., Jas. G.

FURNITURE

Algoma Wood Products Co.
American Seating Co.
Beckley-Cardy Company
Columbia School Supply Company
Heywood-Wakefield Co.
Imperial Desk Company
Kewanee Mfg. Company
Kimball Company, W. W.
Kundts Company, The Theo.
Maple City Stamping Company
National School Equipment Co.
Peabody Seating Co.
Remington-Rand Business Service, Inc.
Rowles Co., E. W. A.
Royal Metal Mfg. Co.
Stakmore Company
Standard School Equipment Co.
Wark-Beacon Steel Furniture Co.
Welch Mfg. Co., W. M.

FURNITURE BRACES

Wittliff Furniture Brace Co.

GAS MACHINES

Matthews Gas Machine Co.

GLASS

Manufacturers Glass Company

GLOBES

Beckley-Cardy Company
Rand, McNally & Co.
Weber Costello Company

GRAND STANDS

Pittsburgh-Des Moines Steel Co.
Wayne Iron Works

GYMNASIUM APPARATUS

Chicago Gymnasium Equipment Co.
Narragansett Machine Company

GYMNASIUM FLOORING

Carter Bloxonend Flooring Co.

GYMNASIUM LOCKERS (STEEL)

Durabilt Steel Locker Co.

HAIR DRIER

Chicago Hardware Foundry Co.
(Sant-Dri Division)

HEATING SYSTEMS

Buckeye Blower Co.
Clow & Sons, Jas. B. ("Gasteam")
Crane Company
Heggie Simplex Boiler Company
Nelson Corp., The Herman
Peerless Unit Ventilation Co., Inc.
B. F. Sturtevant Co.

HEATING AND VENT. SYSTEMS

American Air Filter Co.

INKS

American Crayon Company
Sanford Mfg. Co.

INKWELLS

Sengbusch Self-Closing Inkstand Co.
Squires Inkwell Company
Tanner Works, The
U. S. Inkwell Company

JANITORS' SUPPLIES

Continental Chemical Corporation
Dougherty & Sons, Inc., W. F.
Eagle Soap Corporation
Hild Floor Machine Co.
Midland Chemical Laboratories
Oakite Products, Inc.
Sonneborn Sons, L.
Welch Mfg. Co., W. M.

KEY CONTROL SYSTEM

Thayer Tel-Kee Corporation

KEYLESS LOCKS

Barrett Lock Co., Inc., The
Dudley Lock Corporation
Miller Keyless Lock Co., J. B.

LABORATORY APPARATUS

Central Scientific Co.
International Business Machines Corp.
Leitz, Inc., E.
Standard Electric Time Company
Welch Mfg. Co., W. M.

LABORATORY FURNITURE

Columbia School Supply Company
Kewanee Mfg. Company
Kimball Company, W. W.
Peterson & Co., Leonard
Sheldon & Company, E. H.
Welch Mfg. Co., W. M.

LADDERS

Dayton Safety Ladder Co., The

LANTERN SLIDES

Keystone View Company
Welch Mfg. Co., W. M.

LAWN MOWERS

Textbookmaking and the Wood Shop

The academic classes of the schools of America have developed marvels in the art of textbookmaking. Years of the most intensive labor, comprehensive research study, and competent editorial work by school groups have laid the foundation for the most wonderful school texts in the world. As the activities of the classroom were developed to meet the needs of the school child in a more perfect manner, so the texts were altered to correspond with the progress that was made.

Nor has this development of class efficiency been confined to the academic groups. Sympathetic to progressive measures and alert to the adaptability of new methods to *their* special endeavors were the industrial-arts instructors. In their wood shops, for instance, they began teaching more than mere processes. They acquired a clear vision of what fundamentals should be taught and the finest methods of teaching them. Supplementary material, broadening the scope of the woodworking course, was introduced. Projects became artistic as well as utilitarian.

Eventually, these fresh ideas that had been tried and found successful under various wood shop conditions were combined into book form by Herman Hjorth. His book is **PRINCIPLES OF WOODWORKING**, and it easily equals the academic standard of textbookmaking. It is a complete description of all the fundamental processes, the tools and materials employed in the woodworking shop of today. New machinery, tools, and methods, recently introduced to the woodworker, are included.

The plan of the book is to give the student more than mere knowledge of wood-shop practices; it instills in him, besides, a real *appreciation* for the possibilities of working in wood. In binding, typography, and illustrations **PRINCIPLES OF WOODWORKING** measures up to the best academic texts. By its comprehensiveness, teachability, and understanding of student requirements, it is an exceedingly fine reflection of the progress made in the wood shops of American schools today, and rightfully takes its place as an accepted part of regular shop equipment.



The Bruce Publishing Company

New York

Milwaukee

Chicago

Directory of Equipment and Supplies

(Continued from Page 142)

PANIC EXIT DEVICES
Potter Manufacturing Corp.
Steffens-Amberg Company
Vonnegut Hardware Company

PAPER

American Crayon Company
Beckley-Cardy Company

PENCILS

American Crayon Company

PHYSICS EQUIPMENT

Welch Mfg. Co., W. M.

PIANOS

Kimball Company, W. W.

PLAYGROUND APPARATUS

Chicago Gymnasium Equipment Co.
Hill-Standard Company
Mitchell Manufacturing Co.
Narragansett Machine Company
Potter Manufacturing Corp.

PLAYGROUND ENCLOSURES

Anchor Post Fence Company
Cyclone Fence Co.
Clay Equipment Corp.
Page Fence Association
Stewart Iron Works Co., The

PLUMBING FIXTURES

Clow & Sons, James B.
Crane Company
Hoffmann & Billings Mfg. Co.
Rundle-Spence Mfg. Company
Vogel Company, Joseph A.

POINTERS

N. Y. Silicate Book Slate Co.
Weber Costello Company

POLISHING AND WAXING EQUIP.

Finnell System, Inc.
Hild Floor Machine Co.

PORTABLE BLEACHERS

Circle A Products Corp.
Minter Homes Corporation
Pittsburgh-Des Moines Steel Co.
Wayne Iron Works

PORTABLE SCHOOLHOUSES

American Portable House Co.
Asbestos Buildings Co.
Circle A Products Corporation
Harris Brothers Company
Minter Homes Corporation

PROJECTION LANTERNS

Spencer Lens Co.
Trans-Lux Daylight Picture Screen Corp.

PROJECTION MACHINES

Eastman Teaching Films, Inc.
National Theatre Supply Co.
RCA Photophone, Inc.

PROJECTORS

Holmes Projector Company

PUBLIC ADDRESS SYSTEMS

Graybar Electric Co., Inc.
International Business Machines Corp.
Multi-Selecto Phonograph, Inc.
Western Electric Co.

PUMPS—Vacuum, Condensation,

Centrifugal, Sump

Nash Engineering Co.

PUPILS' DESKS

Rowles Co., E. W. A.

RACKS, GYM. BASKET (STEEL)

Durabilt Steel Locker Co.

RADIOS

Multi-Selecto Phonograph, Inc.
Radio-Victor Corporation of America

RANGES

Westinghouse Electric & Mfg. Co.

RECORD SYSTEMS

Remington-Rand Business Service, Inc.

REINFORCED STEEL

Berger Manufacturing Company

Truscon Steel Company

REPRODUCTION SYSTEMS

Western Electric Co.

ROLLING PARTITIONS

Wilson Corp., Jas. G.

RULERS

Seneca Falls Rule & Block Co.

SAFETY STAIR TREADS

American Abrasive Metals Co.

SANDERS

Hild Floor Machine Co.

SASH OPERATING DEVICES, STEEL

Truscon Steel Company

SCIENTIFIC APPARATUS

Central Scientific Co.
Rowles Co., E. W. A.

Standard Electric Time Company

Welch Mfg. Co., W. M.

SCREENS—PICTURE

Eastman Teaching Films, Inc.

National Theatre Supply Co.

Trans-Lux Daylight Picture Screen Corp.

SEWAGE EJECTORS

Nash Engineering Co.

SEWING MACHINES

Singer Sewing Machine Co.

SHADE ADJUSTERS

Eveleth Mfg. Co.

SHEARS AND SCISSORS

Acme Shear Co.

SHOE LOCKERS (STEEL)

Durabilt Steel Locker Co.

SHOWERS

Clow & Sons, James B.

Crane Co.

Hoffmann & Billings Mfg. Co.

SIGNS

Hull Sign Company

SLATED CLOTH

Beckley-Cardy Company
N. Y. Silicate Book Slate Co.

Rowles Co., E. W. A.

Weber Costello Company

SOUND PICTURES

Electrical Research Products, Inc.

RCA Photophone, Inc.

SOUND SYSTEMS

Multi-Selecto Phonograph, Inc.

Radio Receptor Company, Inc.

Western Electric Company

SPRAY PAINTING EQUIPMENT

DeVilbiss Mfg. Co., The

Vortex Mfg. Co.

STAFF LINERS

Weber Costello Company

STAGE CURTAINS, EQUIPMENT, AND SCENERY

Acme Scenic Studios

Beck & Sons Co., The Wm.

Belson Mfg. Co.

Jackson Corp., A. F.

Novelty Scenic Studios

Standard Decorating Co.

Tiffin Scenic Studios

Twin City Scenic Company

Universal Scenic Studios, Inc.

Volland Scenic Studios

Weiss & Sons, I.

STAIRS

Johnson & Son, S. C.

STAIR TREADS

American Abrasive Metals Co.

Norton Company

Sanymetal Products Company

STATIONERY CABINETS (STEEL)

Durabilt Steel Locker Co.

STEEL JOISTS

Truscon Steel Company

STEEL LOCKERS

All-Steel-Equip Co.

Berger Manufacturing Co.

Durabilt Steel Locker Co.

Lyon Metal Products Co.

Medart Mfg. Co., Fred

Narragansett Machine Co.

North Western Steel Products Co.

STEEL STORAGE CABINETS

Berger Mfg. Co.

Durabilt Steel Locker Co.

Lyon Metal Products, Inc.

North Western Steel Products Co.

STEEL WINDOWS

Detroit Steel Products Company

North Western Steel Products Company

Truscon Steel Company

STORAGE CABINETS (STEEL)

Durabilt Steel Locker Co.

TABLES

Kimball Company, W. W.

Mutachler Bros. Company

Remington-Rand Business Service, Inc.

Welch Mfg. Co., W. M.

TABLETS—BRONZE

Russell & Sons Co., Albert

TALKING MACHINES

RCA Victor Corporation

TEACHER AGENCIES

Natl. Association of Teacher Agencies

Teacher Agencies Directory

TEACHERS' CABINETS (STEEL)

Durabilt Steel Locker Co.

TECHNICAL PAINTS

Sonneborn Sons, L.

TELEPHONE SYSTEMS

Automatic Electric Company

Graybar Electric Co., Inc.

International Business Machines Corp.

North Electric Mfg. Company, The

Standard Electric Time Company

TEMPERATURE REGULATION

Johnson Service Company

TOOL CABINETS (STEEL)

Durabilt Steel Locker Co.

TOWELS

Brown Company

TOILET PARTITIONS

Clow & Sons, James B.

Sanymetal Products Company

Structural Slate Company

Weiss Mfg. Co., Henry

TYPEWRITERS

Remington-Rand Business Service, Inc.

Smith & Corona Typewriters Inc., L C

Underwood Typewriter Company

VACUUM CLEANING SYSTEMS

Allen & Billmyre Co., Inc.

Spencer Turbine Company, The

Sturtevant Co., B. F.

VACUUM PUMPS

Nash Engineering Company

VALVES—FITTINGS

Clow & Sons, James B.

Crane Company

VARNISHES

Wis-Co-Lac Co., The

VENETIAN BLINDS

Burlington Venetian Blind Co.

VENTILATING SYSTEMS

Buckeye Blower Company

Nelson Corp., The Herman

Peerless Unit Vent. Co., Inc.

Sturtevant Company, B. F.

VENTILATORS

Sturtevant Co., B. F.

VISUAL INSTRUCTION EQUIPMENT

Keystone View Co.

VOCATIONAL EQUIPMENT

Christiansen, C.

Columbia School Supply Co.

Flanagan Company, A.

Kimball Company, W. W.

Richards-Wilcox Mfg. Co.

Sheldon & Company, E. H.

Wallace & Company, J. D.

WARDROBES

Austral Window Co.

Evans, W. L.

K-M Supply Company

Park, Winton & True Co.

Richards-Wilcox Mfg. Company

Wilson Corp., Jas. G.

WARDROBE CABINETS—STEEL

Durabilt Steel Locker Co.

WASTE PAPER BASKETS

National Vulcanized Fibre Co.

North Western Steel Products Company

WASTE RECEPTACLES

Solar-Sturges Mfg. Co.

WATER CLOSETS

Crane Co.

Clow & Sons, James B.

Vogel Co., Joseph A.

WATER COLORS

American Crayon Company

WATER PURIFIERS

Clow & Sons, Jas. B. (B. U. V.)

Wallace & Tiernan, Inc.

WATERPROOFING

Sonneborn Sons, L.

Truscon Steel Company

WAXING EQUIPMENT

Finnell System, Inc.

WEATHERSTRIPS

Athey Company, The

WINDOWS—ADJUSTABLE

Austral Window Company

Detroit Steel Products Company

The Kawneer Company

Truscon Steel Company

Universal Window Company

Williams Pivot Sash Company

WINDOW FIXTURES

Austral Window Company

Columbia Mills, Inc.

Peerless Unit Ventilation Co., Inc.

Williams Pivot Sash Company

WINDOW GUARDS

Radner Wire & Iron Works

Stewart Iron Works Co., The

WINDOWS—REVERSIBLE

Austral Window Company

Detroit Steel Products Company

Williams Pivot Sash Company

WINDOW SHADE CLOTH

Columbia Mills, Inc.

Hartshorn Company, Stewart

Maxwell & Co., Inc., S. A.

WINDOW SHADE ROLLERS

Columbia Mills, Inc.

Hartshorn Company, Stewart

WINDOW SHADES

Athey Company, The

Beckley-Cardy Company

Burlington Venetian Blind Co.

Columbia Mills, Inc.

Draper Shade Co., Luther O.

Forse Manufacturing Co.

Hartshorn Company, Stewart

Rowles Co., E. W. A.

Maxwell & Co., Inc., S. A.

WINDOWS—STEEL

Detroit Steel Products Company

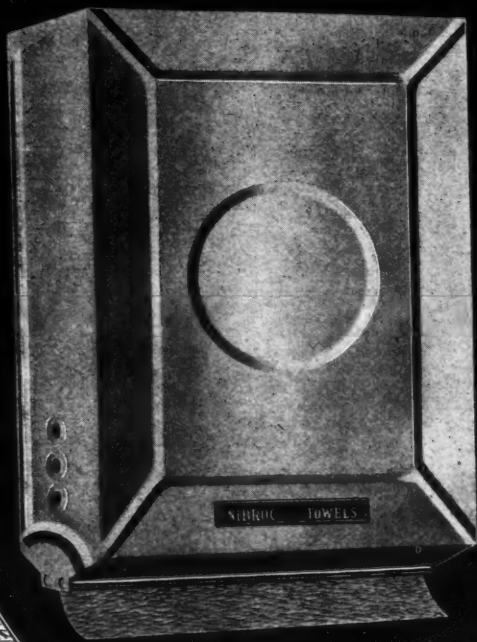
Truscon Steel Company

WIRE GUARDS

Radner Wire & Iron Works

Cyclone Fence Co.

Stewart Iron Works Co., The



Safeguard
and
Economize
with

NIBROC TOWELS

ONLY with the strict observance of sanitary conditions in your school washrooms and classrooms can good student health be maintained. The installation of NIBROC Towels in your schools will protect the health standards of your community. Unlike a cloth towel that is used repeatedly, NIBROCS are served fresh and clean, *used once* and quickly disposed of. NIBROCS excel in strength, purity, and absorption. They are emollient and free from lint. Economical too—a single 10" x 15" sheet will dry the wettest pair of hands *thoroughly*. No need of doubling NIBROCS to prevent disintegration. You have a choice of *golden brown* or *pure white* NIBROCS, of equal quality. Send for generous free supply of NIBROCS today, at our expense. Compare and test them with other makes. NIBROCS will convince you on merit alone.



FOUNDED 1852

Portland, Maine

After the Meeting



CENTRALIZATION OF AUTHORITY

Mr. A. J. Stout, superintendent of schools of Topeka, Kans., tells a story that proves that in some quarters of the United States there is no race suicide. It also gives rise to the theory that there are more girls than boys in this generation, despite the United States Census Bureau. The upkeep of heads is considerable in a large family of girls. Perhaps the internal expense in the upkeep of heads is not as large as external expense, for there are hats, bobbing, marcelling, and a host of other things that the editor is not definitely informed on. Well, anyway, here's the story:

"There ought to be only one head to every family," exclaimed a speaker at a certain meeting. "That's true," replied a worried looking man in the audience.

"You agree with me, sir?" said the speaker.

"I do," replied the man. "I've just paid for hats for nine daughters."

EXPECTING TOO MUCH

Mr. R. L. Cooley, director of the Milwaukee Vocational School, never lacks an appropriate story. To a Milwaukee manufacturer who complained that the apprentices taught at the vocational school were not all-around mechanics upon graduation, he told this story:

A lady showed her husband a new dress.

"Mary," he said, "that dress is absurd. You don't begin to fill those big sleeves."

"Well," answered Mary, "do you come anywhere near filling the big silk hat you wear when we go out for an evening?"

THE "GOOD OLD DAYS"

Mr. E. C. Fisher, superintendent of schools of Peoria, Ill., tells a story of the stone age, which may be applied to some of the radical cures which some schoolmen apply to trivial school abuses:

Son: "Father, what is meant by the 'stone age'?"

Father: "The stone age, my boy, was back in the good old days when the man 'axed' the woman to marry him."

HE COULD

"I'll bet you can't guess the name of our new teacher," said one school boy to another. "It's awful hard."

"Bet I can tell you one that's harder," answered the other.

"Well, give up?"

"Sure, what's yours?"

"Stone. What's yours?"

"Harder."



The Vital Spot

First Prof.: "It's strange how many college students are now committing suicide. They all seem to shoot themselves in the chest."

Second Prof.: "That's all that's necessary. They're all dead from the neck up, anyway."

Probably True

Teacher had explained the benefits of prohibition. Now she wished to test the class. "Are prohibitionists a benefit to a country?" she asked.

"Yes," piped Johnny, "just like flies and mosquitos."

"How's that?"

"Well," said the boy, "my father told me flies and mosquitos were created to wake up lazy people."

Tapping a Vacuum

Earnest New Student: "Excuse me — could you tell me the way to the lecture hall?"

Old Hand: "Fraid I can't; I'm a student myself!" — Passing Show (London).

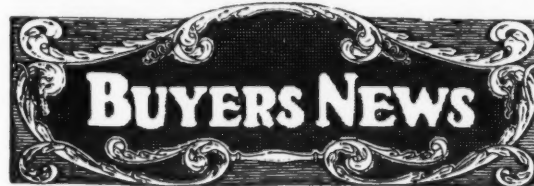
A Wise Boy

An Omaha boy told his teacher that sister was ill with the measles.

"Then you must go right home, Edward," ordered the teacher. "Don't come back until your sister is well."

Edward left and when he was out of sight another boy held up his hand.

"Please, teacher, Eddie's sister who has the measles is with her mother on a visit to Chicago."



A TEST OF EXIT DOORS TO DETERMINE FIRE RESISTANCE

In a number of centers of Western Canada there recently developed an agitation for steel-clad exit doors as a means of protection to the occupants of public buildings. To demonstrate conclusively that a well-constructed flush or slab-type door is sufficiently fire-retarding to furnish ample protection to the occupants of a building in making their escape, D. Ackland & Son, Ltd., of Winnipeg, recently made a public test of three doors.

In the demonstration one was an ordinary oak-panel door, with a 5-ply, 3/4-in. panel. The second was a 5-ply, 1 3/4-in. birch-slab door, while the third was a 1 3/4-in., 5-ply Roddis Protex door. The last mentioned is built on the same principle as an ordinary slab door, but has in addition a layer of asbestos under the face veneers. No claim was made that the doors were fire-proof, but it was held that they were fire-resisting.

The Test

All three of the doors were built up with asbestos wings approximately 18 in. higher than the doors. They were set comparatively close to one another and combustible material, saturated with oil, was piled between the asbestos wings and in contact with the doors.

Three and one-half minutes after the combustible material had been ignited, the panel door was burned through and the door was in flames. In the same time, neither of the slab doors was affected and the side farthest from the fire was cold. A slight amount of veneer and asbestos lining was burned from the Protex door. Fifteen minutes after the fires had been lighted there was no indication of flames coming through either of the remaining doors and the sides were warm to the touch. Twenty minutes after the fires were lighted, flames came through the space between the asbestos wings and the doors, due to faulty preparation for the test. On the fire side the doors were well charred, but did not burn intensely.

The test was continued for 47 minutes. At this time the doors were charred at the sides and bottom for a distance of 8 in., but the hand could be held against the front without discomfort.

In the light of this experience, the National Testing Laboratories stated that, "in our opinion all three doors were exposed to a temperature of 2,000 degrees F., that this temperature was reached after lighting the fire, that the temperature was maintained throughout the test, and that all three doors were exposed to similar conditions. We are satisfied, therefore, that the two types of Roddis doors used in the test might be classed as fire-resisting."

RECENT BUSINESS CHANGES

Porter-Cable Company Consolidation. The Porter-Cable Machine Company, of Syracuse, N. Y., and the Hutchinson Manufacturing Company of Norristown, Pa., have announced the formation of a new company under the firm name of the Porter-Cable-Hutchinson Corporation, with sales offices in Syracuse. The manufacturing facilities will be retained at both the Syracuse and Norristown plants for the present.

The Porter-Cable Company manufactures a complete line of portable and motor-driven woodworking machines and machine tools. The Hutchinson Manufac-

turing Company is an old pioneer in the manufacture of portable woodworking equipment of the overhead swing-saw type. The combination of these two reliable manufacturers of woodworking machines and tools makes possible new and greatly improved facilities for the manufacture and sale of these products.

PERSONAL NEWS

Bradley Appoints Representatives. The Bradley Washfountain Company, of Milwaukee, Wis., manufacturers of fixtures for group washing, have announced the appointment of three new representatives. Mr. H. J. Warren, of Chicago, will have charge of the sales of the firm in Lake and Will counties in Illinois, and in Lake county, Ind.; Mr. John J. Taylor, of Baltimore, Md., will direct the sales in the state of Maryland; Hansen-MacGruder, Inc., of Dallas, Tex., will have charge of the southwestern factory branch.

Mr. Clay with Truscon. The Truscon Steel Company, of Youngstown, Ohio, has recently secured the services of Mr. Wharton Clay, an outstanding architectural and contracting engineer, as director of its projects involving permanent building products, and as a promoter of the professional and trade contacts of the firm for the application of new ideas.



WHARTON CLAY

Mr. Clay has been successively sales manager of the U. S. Gypsum Company, commissioner of the Associated Metal Lath Manufacturers, and organizer of the National Council for Better Plastering. In 1920, when he became commissioner of the Associated Metal Lath Manufacturers, the industry was shipping 13,000,000 yards per year, but in 1929 the shipment had exceeded 65,000,000 yards, and there was a general recognition of metal lath as a result of the fire tests carried out under the direction of the Fire Underwriters

Laboratories. In 1926, he organized the National Council for Better Plastering, which resulted in widespread interest in plastering. In recognition of this work, the International Union of Plasterers and Finishers honored him with a membership in their organization, which was the first and only one given on an honorary basis.

RECENT PUBLICATIONS

Rem-Rand Notes. The publication, *Remington Notes*, formerly issued by the Remington Typewriter Company, has been resumed under the new name of *Rem-Rand Notes*. The publication, which is intended for secretaries, stenographers, and clerical workers, as well as commercial students, is inspirational and informational. It will be sent without charge to schools who apply to Remington Rand Business Service, Buffalo, N. Y.

New Faber Colored Pencil Booklet. The Eberhard Faber Pencil Company, of Brooklyn, N. Y., has issued its new Mongol colored pencil booklet for teachers, students, and others desiring to become acquainted with the technique involved in painting with pencils.

The booklet contains 24 pages devoted to descriptive material and excellent lithographs in full color. It contains suggestions for using Mongol colored indelible pencils, for producing color harmonies, and for using various applications of water-color pencils in specific ways. A series of beautiful illustrations show jewelry design, still-life, interior decoration, animal drawing, textile patterns, fashion design, and posters.

Complete information will be furnished to any teacher, or supervisor, upon request.

New Directory of Film Sources. The Victor Animatograph Company, of Davenport, Iowa, has issued its directory of film sources, telling where to buy, rent, or borrow films for a variety of school purposes. The directory has been carefully compiled, is classified, and lists a number of films which have real value as school subjects. The directory will be revised and constantly kept up-to-date. Copies of the catalog may be obtained by any school official upon request.

Drawing Competition. The Eberhard Faber Company, of Brooklyn, N. Y., has announced an open competition for high-school students, to obtain the best drawings made with Mongol colored indelible lead pencils.

The first prize in the competition is tuition for two years in the best art schools of America and Europe. The second prize is \$200 toward a one-year course in an American art school. The third prize is \$75; the fourth, \$25 in cash. The contest closes on January 31, 1931. Details are available from the Scholarship Dept. E, Faber Pencil Co., 37 Greenpoint Avenue, Brooklyn, N. Y.



A fire company of
the 40's examining
their new horse
drawn engine

Protecting Lives and Property

MUTUAL life insurance companies have outstanding over ninety million policies. Practically everyone who carries any considerable amount of life insurance has one or more mutual policies.

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Mutual fire management has effected enormous savings through fire prevention effort; through conservative and economical management.

These savings have been passed on to policyholders in dividends—millions of dollars annually.

Every property owner should inform himself about the operation and principles of mutual fire insurance—its record of 178 years of service—its savings to policyholders.

A booklet will be sent on request. There is, of course, no obligation involved. Address Mutual Fire Insurance, Room 2202-C, 180 North Michigan Avenue, Chicago, Illinois.

An Unparalleled Record

75 leading, legal reserve companies under State supervision constitute the Federation of Mutual Fire Insurance Companies. The oldest Federation company was founded in 1752. Five others are more than 100 years old.

Of the remaining companies—

- 9 are between 75 and 100 years old
- 10 are between 50 and 75 years old
- 30 are between 25 and 50 years old
- 20 are between 10 and 25 years old

The Federation companies are protecting property to the extent of six billion dollars—have assets in excess of ninety million dollars—have returned to policyholders savings of more than one hundred and thirty millions of dollars.

Mutual Fire Insurance

FEDERATION OF MUTUAL FIRE
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The new Washington High School,
Lorain, Ohio, painted throughout
with Barreled Sunlight.

Their Business Manager chose interior paint in a *businesslike way*..

THE Board of Education at Lorain, Ohio, had completed a new high school. They were in the market for interior paint. So they secured samples of eight "standard makes." Tested them carefully. And then chose Barreled Sunlight.

"Tests were made," they say, "for hiding qualities, covering power and ease of application."

True enough, Barreled Sunlight *does* spread over a larger area, has greater hiding power, is easy to apply. But in the opinion of many users these qualities, while highly desirable, are a secondary consideration.

Marked resistance to dirt... a high degree of light reflection... ease of washing... these are the characteristics that explain Barreled Sunlight's popularity with school boards the country over.

For further information, and a sample panel, mail the coupon.

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44-K Dudley Street, Providence,
R. I. Branches: New York—
Chicago—San Francisco. Dis-
tributors in all principal cities.
(Distributors for Pacific Coast,
W. P. Fuller & Co.)



Barreled Sunlight

Reg. U. S. Pat. Off.

Easy to Tint

Any desired shade is obtained by simply mixing ordinary colors in oil with Barreled Sunlight white. Quantities of five gallons or over are tinted to order at the factory without extra charge.

BOARD OF EDUCATION
BUSINESS DEPARTMENT
LORAIN, OHIO

W. A. PILLANS
BUSINESS MANAGER

REPLYING TO

SUBJECT

DATE November 15, 1929

U. S. Gutta Percha Paint Co.
Providence, R. I.

Gentlemen:

After testing eight standard makes of interior wall paint, we chose Barreled Sunlight for our High School.

Tests were made for hiding qualities, covering capacity and ease of application.

We are highly pleased with the results obtained.

Very truly yours

W. A. Pillans
Business Manager

WAP:MP

U. S. GUTTA PERCHA PAINT CO.
44-K Dudley Street, Providence, R. I.

Please send us further information and a panel painted with Barreled Sunlight. We are interested in the finish checked here.

Gloss ☐ Semi-Gloss ☐ Flat ☐

Name _____

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Free Consulting Service. Write for information. Indicate size of school building you have and a complete description of the FINNELL SYSTEM adapted to your needs will be sent you. No obligation implied. Later demonstration can be arranged if you wish. Address FINNELL SYSTEM, INC., 811 East Street, Elkhart, Ind.



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